

~~Search notes~~ 110713
From: Yu, Misook
Sent: Thursday, December 18, 2003 8:45 AM
To: Schreiber, David
Subject: FW: 09873409

12-18-03, my

This is the case we discussed yesterday. Would you please align SEQ ID NOs 1-8 (proteins) against NCBI # AA073470 (812 aa protein), also align SEQ ID NOs 9-16 against NCBI # AY234788 (2906 bp cDNA). Thank you.

-----Original Message-----

From: Yu, Misook
Sent: Wednesday, December 17, 2003 11:44 AM
To: Schreiber, David
Subject: FW: 09873409

Pls let me know when you have a few minutes, I would like to discuss with you about this case. It appears that the protein sequences are deduced from two major BAC clones (about 100 kb each) and sequence search did not reveal any of the BAC clones and I wonder why.

Examiner Misook Yu, Ph.D.
703-308-2454 (Phone)
Art Unit 1642
CM1-8E18 (Room)
CM1-8E12 (Mail Box)

-----Original Message-----

From: Yu, Misook
Sent: Wednesday, December 17, 2003 9:57 AM
To: Schreiber, David
Subject: 09873409

David, Would you pls align SEQ IS NOs 1-8 (all proteins)? I would like to know how different they are. It is due this biweek. Thanks.

Examiner Misook Yu, Ph.D.
703-308-2454 (Phone)
Art Unit 1642
CM1-8E18 (Room)
CM1-8E12 (Mail Box)

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GenCore version 5.1.6
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OM nucleic - nucleic search, using sw model

Run on: December 18, 2003, 13:01:35 ; Search time 30 seconds
(without alignments)
3.983 Million cell updates/sec

Title: AY234788
Perfect score: 2906
Sequence: 1 cctaatcccttaataatcctc.....atgcacagtcagtcagtgca 2906

Scoring table: IDENTITY NUC
Gapop 10.0, Gapext 0.5

Searched: 8 segs, 20558 residues

Total number of hits satisfying chosen parameters: 16

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 8 summaries

Database : US09873409.seq:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES			
Result No.	Score	Query Match Length DB ID	Description
1	2821	97.1 2856 1	US-09-873-409-10 Sequence 10, Appl
2	2793	96.1 3177 1	US-09-873-409-12 Sequence 12, Appl
3	2793	96.1 3621 1	US-09-873-409-14 Sequence 14, Appl
4	2793	96.1 3702 1	US-09-873-409-13 Sequence 13, Appl
5	2066	71.1 2066 1	US-09-873-409-9- Sequence 9, Appl
6	755.2	26.0 1175 1	US-09-873-409-11 Sequence 11, Appl
7	727.2	25.0 1940 1	US-09-873-409-16 Sequence 16, Appl
8	727.2	25.0 2021 1	US-09-873-409-15 Sequence 15, Appl

ALIGNMENTS

RESULT 1
US-09-873-409-10
Sequence 10, Application US/09873409
GENERAL INFORMATION:
APPLICANT: Frank, Markus
TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein
FILE REFERENCE: 81994/266611
CURRENT APPLICATION NUMBER: US/09/873,409
CURRENT FILING DATE: 2001-06-05
NUMBER OF SEQ ID NOS: 19
SOFTWARE: PatentIn version 3.0
SEQ ID NO 10
LENGTH: 2856
TYPE: DNA
ORGANISM: Homo sapiens
US-09-873-409-10

Query Match 97.1%; Score 2821; DB 1; Length 2856;

Best Local Similarity 98.3%; Pred. No. 4,4e-11;
Matches 2856; Conservative 0; Mismatches 0; Indels 50; Gaps 1;

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Db	1	CTAATTCCTTAATATCTCTCTGAGCCCTAAACCAATATATATATATATAT	60
Qy	61	GCTTTCTTAAT	120
Db	61	GCTTTCTTAAT	120
Qy	121	TTAGTGAATTCATAGAGATTTATGATGAGAGAGAGAGAGAGAGAGAGAG	180
Db	121	TTAGTGAATTCATAGAGATTTATGATGAGAGAGAGAGAGAGAGAGAGAG	180
Qy	181	CAATAGCCCAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	240
Db	181	CAATAGCCCAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	240
Qy	241	ATACTTTTCCACAGCTGATATATTAACCTGATATATATATATATATAT	300
Db	241	ATACTTTTCCACAGCTGATATATTAACCTGATATATATATATATATAT	300
Qy	301	ATGTTTCTTCAATATATATATATATATATATATATATATATATATAT	360
Db	301	ATGTTTCTTCAATATATATATATATATATATATATATATATATATAT	360
Qy	361	GAATTAAGTCTGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	420
Db	361	GAATTAAGTCTGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	420
Qy	421	TAGTCCAGCTTCTGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	480
Db	421	TAGTCCAGCTTCTGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	480
Qy	481	ATGACATCAGAGCTTTAATATGTCGAGATATATATATATATATATAT	540
Db	481	ATGACATCAGAGCTTTAATATGTCGAGATATATATATATATATATAT	540
Qy	541	AGCTGTTTGTTCGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	600
Db	541	AGCTGTTTGTTCGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	600
Qy	601	CTGATGAAGAGATGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	660
Db	601	CTGATGAAGAGATGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	660
Qy	661	TTCTTAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAAT	720
Db	661	TTCTTAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAAT	720
Qy	721	AACAGAGATTCGCAATTCGTCGCTTATGTTGCAAAACCCAGATTCGAT	780
Db	721	AACAGAGATTCGCAATTCGTCGCTTATGTTGCAAAACCCAGATTCGAT	780
Qy	781	AGGCTAGCTGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	840
Db	781	AGGCTAGCTGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG	840
Qy	841	CGAGCAAGGTCGAGATTCGTCGTCGTCGTCGTCGTCGTCGTCGTCG	900
Db	841	CGAGCAAGGTCGAGATTCGTCGTCGTCGTCGTCGTCGTCGTCGTCG	900
Qy	901	ATTGATTTGAGATTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGTCG	960
Db	901	ATTGATTTGAGATTCGTCGTCGTCGTCGTCGTCGTCGTCGTCGTCG	960
Qy	961	TGGCAAAAGAGAGATTCGTCGTCGTCGTCGTCGTCGTCGTCGTCG	1020
Db	961	TGGCAAAAGAGAGATTCGTCGTCGTCGTCGTCGTCGTCGTCGTCG	1020
Qy	1021	AACAGATGAGATTCGATATATATATATATATATATATATATATATAT	1080
Db	1021	AACAGATGAGATTCGATATATATATATATATATATATATATATATAT	1080

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Db      971 AACGATGAGTCAATGACATATTTCTACTGAAGAAAGAACCACTCCTCTGCACT 1030
Qy      1081 CTGTGAAGAGCATCAAGTACAGACTTTCATGACAAGGCTGAGAAATCCACCAATCTAAG 1140
Db      1031 CTGTGAAGAGCATCAAGTACAGACTTTCATGACAAGGCTGAGAAATCCACCAATCTAAG 1090
Qy      1141 AGATMACTCTTCTGAAAGTCTCTCTATTTAAAAATTTTAAAGCTGAATGCG 1200
Db      1091 AGATMACTCTTCTGAAAGTCTCTCTATTTAAAAATTTTAAAGCTGAATGCG 1150
Qy      1201 CTTTGTGCTTCTGAGGACATGCTCTGTCTTAATGGAACCTGTTCACTCAATTTT 1260
Db      1151 CTTTGTGCTTCTGAGGACATGCTCTGTCTTAATGGAACCTGTTCACTCAATTTT 1210
Qy      1261 CCATCATCTTTGCAAAAAATTATACCATGTTGGAAATTAATGATTAACCACTTAAGC 1320
Db      1211 CCATCATCTTTGCAAAAAATTATACCATGTTGGAAATTAATGATTAACCACTTAAGC 1270
Qy      1321 ATGATGAGAAATTTATTCATGATATTCGTCATTTTGGGTGTTATTTGCTTGTCACT 1380
Db      1271 ATGATGAGAAATTTATTCATGATATTCGTCATTTTGGGTGTTATTTGCTTGTCACT 1330
Qy      1381 ATTTTCATGAGGAGTTATTTTACGCGACAGAGAGGGAATTTTAAAGATGATTAAGAC 1440
Db      1331 ATTTTCATGAGGAGTTATTTTACGCGACAGAGAGGGAATTTTAAAGATGATTAAGAC 1390
Qy      1441 ACTTGGCTTCAAGGCAATGTTATATCAGGATATTTGCTGCTGTTGATGAAAAAGAAACA 1500
Db      1391 ACTTGGCTTCAAGGCAATGTTATATCAGGATATTTGCTGCTGTTGATGAAAAAGAAACA 1450
Qy      1501 GCACAGAGGCTTGACAAACAATATTAGCCATAGATATAGCAAAATTCAGAGAGCAACAG 1560
Db      1451 GCACAGAGGCTTGACAAACAATATTAGCCATAGATATAGCAAAATTCAGAGAGCAACAG 1510
Qy      1561 GTTCCAGAGATTGGCTGCTTAAACAACAAATGCAATACATGGGACTTTCAGTTATCATTT 1620
Db      1511 GTTCCAGAGATTGGCTGCTTAAACAACAAATGCAATACATGGGACTTTCAGTTATCATTT 1570
Qy      1621 CCTTTATATATGATGAGGAGATGACATTCCTGATTTCTGAGATTTGCTCCAGTATCTGCG 1680
Db      1571 CCTTTATATATGATGAGGAGATGACATTCCTGATTTCTGAGATTTGCTCCAGTATCTGCG 1630
Qy      1681 TGAAGGAATGATTTGAAACCGCAGCAATGACTGATTTGCAACAAAGATTAAGCAAGAC 1740
Db      1631 TGAAGGAATGATTTGAAACCGCAGCAATGACTGATTTGCAACAAAGATTAAGCAAGAC 1690
Qy      1741 TTTAAGCATGCTGAGAAATAGCACTGAACTTTGAGAAATATACGTAATATAGTGCAT 1800
Db      1691 TTTAAGCATGCTGAGAAATAGCACTGAACTTTGAGAAATATACGTAATATAGTGCAT 1750
Qy      1801 TAACAAGGAGAAAAAGCCTTGAGCAAAATGATGAAAGATGCTTCAAGCTCAACACAGAA 1860
Db      1751 TAACAAGGAGAAAAAGCCTTGAGCAAAATGATGAAAGATGCTTCAAGCTCAACACAGAA 1810
Qy      1861 ATAACCTGGAAGAAAGCAGATTAATTTGAAAGCTGTTATGCAATTCAGCCATGCTTTATAT 1920
Db      1811 ATAACCTGGAAGAAAGCAGATTAATTTGAAAGCTGTTATGCAATTCAGCCATGCTTTATAT 1870
Qy      1921 ATTTTGGCTATGACGAGGCTTTCATTTGAGAGCTTATTTAATTCAGCTGAGCAATGA 1980
Db      1871 ATTTTGGCTATGACGAGGCTTTCATTTGAGAGCTTATTTAATTCAGCTGAGCAATGA 1930
Qy      1981 CCCAGAGGAGCATGTTATGATTTTATCTGCAATGCAATGAGAGATGAGGCAATGGAA 2040
Db      1931 CCCAGAGGAGCATGTTATGATTTTATCTGCAATGCAATGAGAGATGAGGCAATGGAA 1990
Qy      2041 AAAAGCTGTTTGGCTCTGAAATATTCAAAGCAAAATCGGGGCTGCGCATCTGTTTG 2100
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Qy      2101 CCTTTGTGAAAAAGAAACCAATATAGACACCGCAGCTCAAGAAAGGAAAAAGCCAGACA 2160
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Qy      2161 CATGTGAAGGAATTTAGAGTTTCGAGAAATCTCTTTCTTCTATCCATGTCGCCAGATG 2220
Db      2111 CATGTGAAGGAATTTAGAGTTTCGAGAAATCTCTTTCTTCTATCCATGTCGCCAGATG 2170
Qy      2221 TTTTCATCTCTCGTGGCTTATCCCTCAGATTTAGAGCGAGAAAGACAGTAGCATTTGTGG 2280
Db      2171 TTTTCATCTCTCGTGGCTTATCCCTCAGATTTAGAGCGAGAAAGACAGTAGCATTTGTGG 2230
Qy      2281 GAGCAGCGGCTGTGGGAAAAAGACATTCGTCTCAACTTCGAGAGACCTTATAGACCCG 2340
Db      2231 GAGCAGCGGCTGTGGGAAAAAGACATTCGTCTCAACTTCGAGAGACCTTATAGACCCG 2290
Qy      2341 TGCAGAGCAAGGCTGTTGATGCTGATGATGATGATGATGATGATGATGATGATGATGATG 2400
Db      2291 TGCAGAGCAAGGCTGTTGATGATGATGATGATGATGATGATGATGATGATGATGATG 2350
Qy      2401 GTTCCCAAAATAGCAATGCTTCTCAAGAGCTGTGCTCTTCAACCTGACGATTTGTGAG 2460
Db      2351 GTTCCCAAAATAGCAATGCTTCTCAAGAGCTGTGCTCTTCAACCTGACGATTTGTGAG 2410
Qy      2461 ACATGCGCTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 2520
Db      2411 ACATGCGCTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 2470
Qy      2521 ATGACAGCAAAATATCATTCTTTTATTTAGAGGCTCCCTGAGAAATACAAACACAAAGTTG 2580
Db      2471 ATGACAGCAAAATATCATTCTTTTATTTAGAGGCTCCCTGAGAAATACAAACACAAAGTTG 2530
Qy      2581 GACTGAAGAGACACAGCTTTCTGCGCGCCAGAAACAAAGACTGATGATTTGCAAGGGCTC 2640
Db      2531 GACTGAAGAGACACAGCTTTCTGCGCGCCAGAAACAAAGACTGATGATTTGCAAGGGCTC 2590
Qy      2641 TTCTCCAAAAACCAAAATTTTATTTGTGATGATGATGATGATGATGATGATGATGATGATG 2700
Db      2591 TTCTCCAAAAACCAAAATTTTATTTGTGATGATGATGATGATGATGATGATGATGATGATG 2650
Qy      2701 GTGAGAGGCTGTTGACATGCTTATTAAGCCAGAGCGGAGAGAGATGCTTGTAGTGG 2760
Db      2651 GTGAGAGGCTGTTGACATGCTTATTAAGCCAGAGCGGAGAGAGATGCTTGTAGTGG 2710
Qy      2761 TCATCAGAGGCTCTGTGCAATTCAGACGCAAGATTTGATGATGATGATGATGATGATG 2820
Db      2711 TCATCAGAGGCTCTGTGCAATTCAGACGCAAGATTTGATGATGATGATGATGATGATG 2770
Qy      2821 AGATTAAGGAAAGAAATCTCATCAAGAGCTCTCTGGAATGAGAGCATATATTTAAGT 2880
Db      2771 AGATTAAGGAAAGAAATCTCATCAAGAGCTCTCTGGAATGAGAGCATATATTTAAGT 2830
Qy      2881 TAGTGAATGCACAGTCAGTCAGTGA 2906
Db      2831 TAGTGAATGCACAGTCAGTCAGTGA 2856

RESULT 2
US-09-873-409-12
; Sequence 12, Application US/09873409
; GENERAL INFORMATION:
; APPLICANT: Frank, Markus
; TITLE OF INVENTION: Sayegh, Mohamed
; TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein
; FILE REFERENCE: 81994/268611
; CURRENT APPLICATION NUMBER: US/09/873,409
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 12
; LENGTH: 3177
; TYPE: DNA
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: Note

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LOCATION: (198)..(198)
; OTHER INFORMATION: n at position 198 represents any nucleotide (A, T, C or G)
us-09-873-409-12

Query Match 96.1%; Score 2793; DB 1; Length 3177;
Best Local Similarity 100.0%; Pred. No. 5.2e-11;
Matches 2793; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

114 GTTTCCTTATGATATCCATAGCAGTTATTTGATTTGAGAGCAGTCCCTCACTTTGAA 173
1385 GTTTCCTTATGATATCCATAGCAGTTATTTGATTTGAGAGCAGTCCCTCACTTTGAA 444
174 ACCTTCGCAATAGCCCGAGAGCTCCCTTCAATATTTTCCAGTTATTTAAGAAACC 233
445 ACCTTCGCAATAGCCCGAGAGCTCCCTTCAATATTTTCCAGTTATTTAAGAAACC 504
234 AGTATAGTAACTTTTCCAGAGCTGATATTAACCTGAATCCATAGAAAGAACTGTGAA 293
505 AGTATAGTAACTTTTCCAGAGCTGATATTAACCTGAATCCATAGAAAGAACTGTGAA 564
294 TTTAAATAATGTTCTTTCAATTTATCATCAAGACCATATCAAGATTCTGAAAGTCTG 353
565 TTTAAATAATGTTCTTTCAATTTATCATCAAGACCATATCAAGATTCTGAAAGTCTG 624
354 AATCTCAGAAATTAAGTCTGAGAGACAGTCCCTTGTCTGATCTCAATGAGCAGTGGAG 413
625 AATCTCAGAAATTAAGTCTGAGAGACAGTCCCTTGTCTGATCTCAATGAGCAGTGGAG 684
414 AGTACGGTATGTCAGCTTCTGAGAGTTATATGATCCGATGATGGCTTTATCATGTTG 473
685 AGTACGGTATGTCAGCTTCTGAGAGTTATATGATCCGATGATGGCTTTATCATGTTG 744
474 GATGAGAAATGATCATCAGAGCTTTTAAATGTCGGGCACTTATCGAGACCATATGAGTGGT 533
745 GATGAGAAATGATCATCAGAGCTTTTAAATGTCGGGCACTTATCGAGACCATATGAGTGGT 804
534 AGTCAAGAGCCTGTTTGTTCGGGCAACCATCATAGTAACAATATCAAGTATGAGAGAT 593
805 AGTCAAGAGCCTGTTTGTTCGGGCAACCATCATAGTAACAATATCAAGTATGAGAGAT 864
594 GATGAGTATGATGAAGATGAGAGAGCAGCAGAGGAAAGCAATATGCTATGATTTATC 653
865 GATGAGTATGATGAAGATGAGAGAGCAGCAGAGGAAAGCAATATGCTATGATTTATC 924
654 ATGAGATTTCTTAATAATTTAATATCATTTGAGGGGAAAAAGGCTCAATATGAGTGA 713
925 ATGAGATTTCTTAATAATTTAATATCATTTGAGGGGAAAAAGGCTCAATATGAGTGA 984
714 GGGCAGAAACAGAGGATCGCAATTGCTGTCCTAGTTTCGAAACCCCAAGATTCTGATT 773
985 GGGCAGAAACAGAGGATCGCAATTGCTGTCCTAGTTTCGAAACCCCAAGATTCTGATT 1044
774 TTAAGTAGGCTACGCTGCTCCCTGGATTCAAGAACCAAGTCAAGCTTCAAGCTGACTG 833
1045 TTAAGTAGGCTACGCTGCTCCCTGGATTCAAGAACCAAGTCAAGCTTCAAGCTGACTG 1104
834 GAGAAAGGAGACCAAGGTCGCACTCAATCGTGTGAGCAACCCGCTTTTCAATTTGGA 893
1105 GAGAAAGGAGACCAAGGTCGCACTCAATCGTGTGAGCAACCCGCTTTTCAATTTGGA 1164
894 AGTGAAGATTTGATTTGATACCTTAAGATGGAATGCTGCGGAGAAAGAGCAGATGCT 953
1165 AGTGAAGATTTGATTTGATACCTTAAGATGGAATGCTGCGGAGAAAGAGCAGATGCT 1224
954 GAACTAATGCGCAAAACGAGGCTTATATTTATTTCACTTGTGATGTCACAGATATTTAAA 1013
1225 GAACTAATGCGCAAAACGAGGCTTATATTTATTTCACTTGTGATGTCACAGATATTTAAA 1284
1014 GCTGATGAACAGATGAGATGATGATATTTCTATGAAAGAAACCAACCTCACTTCT 1073
1285 GCTGATGAACAGATGAGATGATGATATTTCTATGAAAGAAACCAACCTCACTTCT 1344
1074 CTGCACTCTGTGAAGAGATCAAGTCAAGCTTCAATTTGCAAGGCTGAGGAATCCACC 1133

1345 CTGCACTCTGTGAAGACATCAAGTCAAGCTTCAATTAACAAGGCTGAGGAATCCACC 1404
1134 TCTAAGAGATTAAGCTTCTCCGAGAGCTCTCTATTTAAATTTTAAAGTTAAACAGCCT 1193
1405 TCTAAGAGATTAAGCTTCTCCGAGAGCTCTCTATTTAAATTTTAAAGTTAAACAGCCT 1464
1194 GAATGAGCTTTTGTGTTTGGGAGCAATGGCTTCTGTCTTAATGGAACCTTCACTCA 1253
1465 GAATGAGCTTTTGTGTTTGGGAGCAATGGCTTCTGTCTTAATGGAACCTTCACTCA 1524
1254 GTATTTTCCATCATCTTTGCAAAAATTTAATCAATGTTTGAATTAATGATTAACCA 1313
1525 GTATTTTCCATCATCTTTGCAAAAATTTAATCAATGTTTGAATTAATGATTAACCA 1584
1314 TTAAGGATGATGAGAAATTTATCATGATGATGATGATGATGATGATGATGATGATG 1373
1585 TTAAGGATGATGAGAAATTTATCATGATGATGATGATGATGATGATGATGATGATG 1644
1374 GTCAGTTATTTATGATGAGGATTTATTTAAGCAGAGAGAGGAAATTTTAAACGATG 1433
1645 GTCAGTTATTTATGATGAGGATTTATTTAAGCAGAGAGAGGAAATTTTAAACGATG 1704
1434 TTAAGCACTTGGCTTCAAGCCATGTTATATCAGATATTTGCTGTTGATGAAAG 1493
1705 TTAAGCACTTGGCTTCAAGCCATGTTATATCAGATATTTGCTGTTGATGAAAG 1764
1494 GAAACAGCAGAGAGGCTTGACAACAATTTTACCAATGATATGACAAATTTCAAGGA 1553
1765 GAAACAGCAGAGAGGCTTGACAACAATTTTACCAATGATATGACAAATTTCAAGGA 1824
1554 GCAACAGGTTCCAGATTTGGGCTTTTAAACAAATATGCAATCAATGAGGACTTTCA 1613
1825 GCAACAGGTTCCAGATTTGGGCTTTTAAACAAATATGCAATCAATGAGGACTTTCA 1884
1614 ATCATTTCTTTATATATGATGAGGAGATGATGATGATGATGATGATGATGATGATG 1673
1885 ATCATTTCTTTATATATGATGAGGAGATGATGATGATGATGATGATGATGATGATG 1944
1674 CTTCGCCGACAGGAATGATGAAACCGGACCAATGATGATGATGATGATGATGATGATG 1733
1945 CTTCGCCGACAGGAATGATGAAACCGGACCAATGATGATGATGATGATGATGATGATG 2004
1734 CAAGAATTAAGTCTGAGAAAGATGCACTAAGCTTTGAGAAATATGATGATGATGAT 1793
2005 CAAGAATTAAGTCTGAGAAAGATGCACTAAGCTTTGAGAAATATGATGATGATGAT 2064
1794 GTGTCATTTAACAAGGAAAGGCTTGCAGCAATGATGAGAGATGCTTCAAGCTCAA 1853
2065 GTGTCATTTAACAAGGAAAGGCTTGCAGCAATGATGAGAGATGCTTCAAGCTCAA 2124
1854 CACGAAATTAAGTCTGAGAAAGATGCACTAAGCTTTGAGAAATATGATGATGATGAT 1913
2125 CACGAAATTAAGTCTGAGAAAGATGCACTAAGCTTTGAGAAATATGATGATGATGAT 2184
1914 TTTATATATTTTGTGCTATGAGAGGTTTGAATTTGAGGCTTTTAAATCAAGCTGGA 1973
2185 TTTATATATTTTGTGCTATGAGAGGTTTGAATTTGAGGCTTTTAAATCAAGCTGGA 2244
1974 GAAATGACCCCGAGAGGATGATGATGATTTTAACTGCAATGATGATGATGATGATG 2033
2245 GAAATGACCCCGAGAGGATGATGATGATTTTAACTGCAATGATGATGATGATGATG 2304
2034 ATCGGAAAAAGCTGCTTTTGTGCTGCAATATTTCAAGCAATGCGGGGCTGCGAT 2093
2305 ATCGGAAAAAGCTGCTTTTGTGCTGCAATATTTCAAGCAATGCGGGGCTGCGAT 2364
2094 CTGTTTGCCTTTGAGAAAGAAACCAATATGACAGCCGATCAAGAGGAGGAAAG 2153
2365 CTGTTTGCCTTTGAGAAAGAAACCAATATGACAGCCGATCAAGAGGAGGAAAG 2424
2154 CCAAGCAATGAGAGGAAATTTAAGATTTGAGAGGCTTCTTTCTATCATGTCGC 2213

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Db      2425 CCAGACATGTAGAGGAAATTAGAGTTGAGAGTCTTTCTTCTATCCATGTGCC 2484
Qy      2214 CCAGATGTTTCACTCTCCGTGGCTTATCCCTCAGATTTAGAGGAGAAAGACATGACA 2273
Db      2485 CCAGATGTTTCACTCTCCGTGGCTTATCCCTCAGATTTAGAGGAGAAAGACATGACA 2544
Qy      2274 TTTGTGGGAGACAGCGGCTGTGGGAAAGACATTCTGTTCACTTCTGCAGAGACTTTAT 2333
Db      2545 TTTGTGGGAGACAGCGGCTGTGGGAAAGACATTCTGTTCACTTCTGCAGAGACTTTAT 2604
Qy      2334 GACCCCGTGAAGGACAGTGTCTGTGTGATGTGTGATGCAAAAGAAATTTGAATGTACAG 2393
Db      2605 GACCCCGTGAAGGACAGTGTGTGTGATGTGTGATGCAAAAGAAATTTGAATGTACAG 2664
Qy      2394 TGCTCCGTTCCCAATAGCAATGCTTCTCAAGAGCCTGTGCTTCAACTGACGATT 2453
Db      2665 TGCTCCGTTCCCAATAGCAATGCTTCTCAAGAGCCTGTGCTTCAACTGACGATT 2724
Qy      2454 GCTGAGAACATCGCTATGTGTGACACAGCCGTGTGTCATTAGATGATCAAGAA 2513
Db      2725 GCTGAGAACATCGCTATGTGTGACACAGCCGTGTGTCATTAGATGATCAAGAA 2784
Qy      2514 GCCGCAATAGCAAAATATCCATTTCTTTATTTGAAGTCTCCCTGGAATACACACA 2573
Db      2785 GCCGCAATAGCAAAATATCCATTTCTTTATTTGAAGTCTCCCTGGAATACACACA 2844
Qy      2574 CAAGTTGACATGAAAGGACAGAGCTTCTGGCGGCGCAGAAACAAAGACTAGCTATTGCA 2633
Db      2845 CAAGTTGACATGAAAGGACAGAGCTTCTGGCGGCGCAGAAACAAAGACTAGCTATTGCA 2904
Qy      2634 AGGAGCTTCTCCAAAAACCAAAATTTTATTTGTGATGAGGACCTTCAAGCCCTTGAT 2693
Db      2905 AGGAGCTTCTCCAAAAACCAAAATTTTATTTGTGATGAGGACCTTCAAGCCCTTGAT 2964
Qy      2694 AATGACATGTAAGAGTGTGTTCAGCATGCCCTTGATTAAGCCAGAGAGGAAAGACATGC 2753
Db      2965 AATGACATGTAAGAGTGTGTTCAGCATGCCCTTGATTAAGCCAGAGAGGAAAGACATGC 3024
Qy      2754 CTAGTGTCACTCAAGAGCTCTGTCAATTGAGAAAGCAGATTGATGATGTTCTGCAC 2813
Db      3025 CTAGTGTCACTCAAGAGCTCTGTCAATTGAGAAAGCAGATTGATGATGTTCTGCAC 3084
Qy      2814 AATGAAAGATTAAGAAACAAGAACTCATCAAGAGTCTCTGAGAAATCGACATATAT 2873
Db      3085 AATGAAAGATTAAGAAACAAGAACTCATCAAGAGTCTCTGAGAAATCGACATATAT 3144
Qy      2874 TTTAAGTTAGTAATGACAGTCAAGTCAATGTA 2906
Db      3145 TTTAAGTTAGTAATGACAGTCAAGTCAATGTA 3177

RESULT 3
US-09-873-409-14
; Sequence 14, Application US/09873409
; GENERAL INFORMATION:
; APPLICANT: Frank, Markus
; APPLICANT: Saeed, Mohamed
; TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-glycoprotein
; FILE REFERENCE: 81994/268611
; CURRENT APPLICATION NUMBER: US/09/873,409
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: Patent version 3.0
; SEQ ID NO 14
; LENGTH: 3621
; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-873-409-14

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Query Match      96.1%; Score 2793; DB 1; Length 3621;
Best Local Similarity 100.0%; Pred. No. 4.6e-11;
Matches 2793; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Qy      114 GTTTCTTTAGTGAATTCATAGCAATTAATGATTTGAGACAGACAGTCCCTCACTTGAA 173
Db      829 GTTTCTTTAGTGAATTCATAGCAATTAATGATTTGAGACAGACAGTCCCTCACTTGAA 888
Qy      174 ACCTTGCAATAGCCCGAGAGAGTGCCTTCAATATTTTCCAGGTTATTTAGTAAGAAACC 223
Db      889 ACCTTGCAATAGCCCGAGAGAGTGCCTTCAATATTTTCCAGGTTATTTAGTAAGAAACC 948
Qy      234 AGTATGATTAACCTTTCCACAGCTGATTAACCTGAATCCATAGAGAACTGTGAA 293
Db      949 AGTATGATTAACCTTTCCACAGCTGATTAACCTGAATCCATAGAGAACTGTGAA 1008
Qy      294 TTTAAAAATGTTCTTTCAATTAATTCATAGAACATCTATCAAGATTCTGAAGGCTCG 353
Db      1009 TTTAAAAATGTTCTTTCAATTAATTCATAGAACATCTATCAAGATTCTGAAGGCTCG 1068
Qy      354 AATCTCAGAAATTAAGTCTGAGAGACAGTCGCTTGTGTCTCAATGCAAGTGGGAA 413
Db      1069 AATCTCAGAAATTAAGTCTGAGAGACAGTCGCTTGTGTCTCAATGCAAGTGGGAA 1128
Qy      414 AGTACGGTAGTCCAGCTTCTGACAGGTTATATGATCCGGATGATGGCTTTATCATGTG 473
Db      1129 AGTACGGTAGTCCAGCTTCTGACAGGTTATATGATCCGATGATGGCTTTATCATGTG 1188
Qy      474 GATGAGAAATGACATCAGAGCTTTAAATGTGCGCATTTATCAGACCATATTGGAGTGT 533
Db      1189 GATGAGAAATGACATCAGAGCTTTAAATGTGCGCATTTATCAGACCATATTGGAGTGT 1248
Qy      534 AGTCAAGAGCTGTTTGTGCGGACCAACATCAATGTAACATATCAAGTATGAGAGAT 593
Db      1249 AGTCAAGAGCTGTTTGTGCGGACCAACATCAATGTAACATATCAAGTATGAGAGAT 1308
Qy      594 GATGACATGTAAGAGATGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGATTTATC 653
Db      1309 GATGACATGTAAGAGATGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGATTTATC 1368
Qy      654 ATGAGCTTCTCTAATAATTTAATAATTAATGATGTTGAGGAGAAAGAGAGCTCAATAGTGA 713
Db      1369 ATGAGCTTCTCTAATAATTTAATAATTAATGATGTTGAGGAGAAAGAGAGCTCAATAGTGA 1428
Qy      714 GGGCAGAAACAGAGATCGCAATGCTCGTCTTATGTTGAAACCCCAAGATTCTGATT 773
Db      1429 GGGCAGAAACAGAGATCGCAATGCTCGTCTTATGTTGAAACCCCAAGATTCTGATT 1488
Qy      774 TTGATGAGGCTACGCTGCTGCTGATTCAGAAAGAGAGAGAGAGAGAGAGAGAGAGAG 833
Db      1489 TTGATGAGGCTACGCTGCTGCTGATTCAGAAAGAGAGAGAGAGAGAGAGAGAGAGAG 1548
Qy      834 GAGAGGCGAGCAAAAGTGCAGACTTACAAATCGTGTGACACACGACTTTCTACTATTGCA 893
Db      1549 GAGAGGCGAGCAAAAGTGCAGACTTACAAATCGTGTGACACACGACTTTCTACTATTGCA 1608
Qy      894 AGTGCAGATTGATTTGTGACCTTAAGAGATGAGATCTGTGCGGAGAAAGAGAGACATGCT 953
Db      1609 AGTGCAGATTGATTTGTGACCTTAAGAGATGAGATCTGTGCGGAGAAAGAGAGACATGCT 1668
Qy      954 GAATTAATGCAAAAGAGGCTATATTTATTTCTCTGTATGTCACAGATATTAAGAAA 1013
Db      1669 GAATTAATGCAAAAGAGGCTATATTTATTTCTCTGTATGTCACAGATATTAAGAAA 1728
Qy      1014 GCTGATGAACAGATGAGTCAATGATATTTCTACTGTAAGAAAGCAACTCACTTCT 1073
Db      1729 GCTGATGAACAGATGAGTCAATGATATTTCTACTGTAAGAAAGCAACTCACTTCT 1788
Qy      1074 CTGCACTGTGTGAAGACATCAAGTCACTTATTTGACAGAGCTGAGGAATCCACCAA 1133
Db      1789 CTGCACTGTGTGAAGACATCAAGTCACTTATTTGACAGAGCTGAGGAATCCACCAA 1848
Qy      1134 TCTAAAGATTAAGTCTTCTGAAAGTCTCTATTTAAATTTTAAAGTAAACAAGCCT 1193
Db      1849 TCTAAAGATTAAGTCTTCTGAAAGTCTCTATTTAAATTTTAAAGTAAACAAGCCT 1908

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OY	1194	GAAATGCGCTTTTGAGCTCTGGGGGCAATGGCTTCGTCTTAAATGAAGACGTTCAATCA	1253
Dp	1909	GAATGGCTTTTGAGCTCTGGGGGCAATGGCTTCGTCTTAAATGAAGACGTTCAATCA	1968
OY	1254	GTATTTTCCATCATCTTTGGCAAAAATTATTAACCATGTTTGGAAAAATAGATTAACACACA	1313
Dp	1969	GTATTTTCCATCATCTTTGGCAAAAATTATTAACCATGTTTGGAAAAATAGATTAACACACA	2028
OY	1314	TTAAAGCATGATGCAGAAATTTATTCCATGATATTGTCATTTTGGGTGTTATTTGCTTT	1373
Dp	2029	TTAAAGCATGATGCAGAAATTTATTCCATGATATTGTCATTTTGGGTGTTATTTGCTTT	2088
OY	1374	GTCAGTTATTTCAATGCAGAGAAATTAATTAACGCACAGAGAGAGGAAATTTTAACCATGGA	1433
Dp	2089	GTCAGTTATTTCAATGCAGAGAAATTTATTTACGCACAGAGAGAGGAAATTTTAACCATGGA	2148
OY	1434	TTAAGACACTTTGGCGCTTCAAAAGCCATGTTATATACAGATATTGCGCTGGTTTGATGAAGA	1493
Dp	2149	TTAAGACACTTTGGCGCTTCAAAAGCCATGTTATATACAGATATTGCGCTGGTTTGATGAAGA	2208
OY	1494	GAAAACAGCACAGAGGCTTGCACAACAATATTAGCCATAGATATAGCAAAATTTCAAGGA	1553
Dp	2209	GAAAACAGCACAGAGGCTTGCACAACAATATTAGCCATAGATATATAGCAAAATTTCAAGGA	2268
OY	1554	GCAACAGGTTCCAGGATTTGGGCGCTTAACACAAAATGCAATAACATGGAGCTTTCAGTT	1613
Dp	2269	GCAACAGGTTCCAGGATTTGGGCGCTTAAACACAAAATGCAATAACATGGAGCTTTCAGTT	2328
OY	1614	ATCATTTTCTTTATATATATGATATGGAGATGACATTCCTGATTTCTGATTAATTCCTCAGTA	1673
Dp	2329	ATCATTTTCTTTATATATATGATATGGAGATGACATTCCTGATTTCTGATTAATTCCTCAGTA	2388
OY	1674	CTTGCCGTGCACAGAAATGTTGAAACCGCAGCAATGACTGGAATTTGCCAACAAAGATTAAG	1733
Dp	2389	CTTGCCGTGCACAGAAATGATTGAAACCGCAGCAATGACTGGAATTTGCCAACAAAGATTAAG	2448
OY	1734	CAAGAACCTTAAGCATGCTGCGAAAGATPACCACTGAAGCTTTGGAGAAATATACGTACTATA	1793
Dp	2449	CAAGAACCTTAAGCATGCTGCGAAAGATPACCACTGAAGCTTTGGAGAAATATACGTACTATA	2508
OY	1794	GTCGTCATTAACAAGGAGAAAAGCCCTTGAGCAAAATGATGAAGAGATGCTTCAGACTCAA	1853
Dp	2509	GTCGTCATTAACAAGGAGAAAAGCCCTTGAGCAAAATGATGAAGAGATGCTTCAGACTCAA	2568
OY	1854	CACAGAAATACCTCGAAGAAAAGCAGATTAATTGGAGCTGTTATGCAATCAGCCATGCC	1913
Dp	2569	CACAGAAATACCTCGAAGAAAAGCAGATTAATTGGAGCTGTTATGCAATCAGCCATGCC	2628
OY	1914	TTTATATATTTTGGCTATGACAGAGGGTTTGATTGGAGCCCTATTAATTCAAGCTGGA	1973
Dp	2629	TTTATATATTTTGGCTATGACAGAGGGTTTGATTGGAGCCCTATTAATTCAAGCTGGA	2688
OY	1974	GGAATGACCCGAGAGGGGAGTGCATATCTTTTCTGCAATTTGCAATAGAGAGTATGGCC	2033
Dp	2689	GGAATGACCCGAGAGGGGAGTGCATATCTTTTCTGCAATTTGCAATAGAGAGTATGGCC	2748
OY	2034	ATCGGAAAAACGCTGCTTTTGGCTCTCGAATATTTCCAAAGCCAAATCGGGGCGTCGCGAT	2093
Dp	2749	ATCGGAAAAACGCTGCTTTTGGCTCTCGAATATTTCCAAAGCCAAATCGGGGCGTCGCGAT	2808
OY	2094	CTGTTTGGCTTTGAGAAAAGAACCAATATATAGACAGCCGAGTCAAGAAAGGAAAAAG	2153
Dp	2809	CTGTTTGGCTTTGAGAAAAGAACCAATATATAGACAGCCGAGTCAAGAAAGGAAAAAG	2868
OY	2154	CCAGACACATGTGAAGGGAAATTTAGAGTTTGGAGAAAGTCTCTTTCTTCAATCAATGTCG	2213
Dp	2869	CCAGACACATGTGAAGGGAAATTTAGAGTTTGGAGAAAGTCTCTTTCTTCAATCAATGTCG	2928
OY	2214	CCAGATGTTTTCAATCTCCGTGGCTTAATCCCTCAGATATTTGAGCGAGAAAACAGTATGCA	2273
Dp	2929	CCAGATGTTTTCAATCTCCGTGGCTTAATCCCTCAGATATTTGAGCGAGAAAACAGTATGCA	2988
OY	2274	TTTGTGGGAGACAGCGCTGTGGGAAAAAGCACTTCTGTTCAACTTCTGACAGACCTTAT	2333

Db	2989	TTTTGGGGAGACACCGCTGTGGAAAAAGCACTTCTGTTCACTTCTGCAGAGCTTTAT	3048
Qy	2334	GACCCCGTGCAGAGACAAGTCTGTTTGAATGATGATGCAAAAGATTGAATGTACAG	2393
Db	3049	GACCCCGTGCAGAGACAAGTCTGTTTGAATGATGATGCAAAAGATTGAATGTACAG	3108
Qy	2394	TGCGTCCGTTCCCAATATGCAATGCTTCTCAGAGCCTGTGCTCTTCACTGACAT	2453
Db	3109	TGCGTCCGTTCCCAATATGCAATGCTTCTCAGAGCCTGTGCTCTTCACTGACAT	3168
Qy	2454	GCTAGAAACATCGCTTATGATGCAAAAGCGGTGTGTCATAGATGATGATCAAGAA	2513
Db	3169	GCTAGAAACATCGCTTATGATGCAAAAGCGGTGTGTCATAGATGATGATCAAGAA	3228
Qy	2514	GCCGCAATGACAGCAAAATATCATCTTTTATGAAAGTCTCCCTGAGAAATACACACA	2573
Db	3229	GCCGCAATGACAGCAAAATATCATCTTTTATGAAAGTCTCCCTGAGAAATACACACA	3288
Qy	2574	CAAGTTGACTGAAAGAGACAACGCTTTCTGCGCGGCAAGAACAAAGACTAGTATTGCA	2633
Db	3289	CAAGTTGACTGAAAGAGACAACGCTTTCTGCGCGGCAAGAACAAAGACTAGTATTGCA	3348
Qy	2634	AGGCTCTCTCCCAAAACCAGAAATTTTATGTTGATAGAGCACTTACGCCCTGAT	2693
Db	3349	AGGCTCTCTCCCAAAACCAGAAATTTTATGTTGATAGAGCACTTACGCCCTGAT	3408
Qy	2694	AATGACAGTGAAGAGTGTGTTCAAGCATGCCCTTGATTAAGCAGAGCGGAGAGACATGC	2753
Db	3409	AATGACAGTGAAGAGTGTGTTCAAGCATGCCCTTGATTAAGCAGAGCGGAGAGACATGC	3468
Qy	2754	CTAGTGTCACTACAGGCTCTCTGCAATTACAGACGACAGATTGATATGTTCTGCAC	2813
Db	3469	CTAGTGTCACTACAGGCTCTCTGCAATTACAGACGACAGATTGATATGTTCTGCAC	3528
Qy	2814	AATGAAAGATTAAGAGAAACAAGAACTTCATCAAGAGTCTCTGAGAAATCCAGACATATAT	2873
Db	3529	AATGAAAGATTAAGAGAAACAAGAACTTCATCAAGAGTCTCTGAGAAATCCAGACATATAT	3588
Qy	2874	TTTAAGTTAGTGAATGACAGTCAAGTCAAGTGA	2906
Db	3589	TTTAAGTTAGTGAATGACAGTCAAGTCAAGTGA	3621
RESULT 4			
US-09-873-409-13			
; Sequence 13, Application US/09873409			
; GENERAL INFORMATION:			
; APPLICANT: Frank, Markus			
; APPLICANT: Sayegh, Mohamed			
; TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein			
; FILE REFERENCE: 81994/26611			
; CURRENT APPLICATION NUMBER: US/09/873, 409			
; NUMBER OF SEQ ID NOS: 19			
; SOFTWARE: PatentIn version 3.0			
; SEQ ID NO 13			
; LENGTH: 3702			
; TYPE: DNA			
; ORGANISM: Homo sapiens			
; FEATURE:			
; NAME/KEY: Note			
; LOCATION: (723)..(723)			
; OTHER INFORMATION: n at position 723 represents any nucleotide (A, T, C or G)			
US-09-873-409-13			
Query Match 96.1%; Score 2793; DB 1; Length 3702;			
Best Local Similarity 100.0%; Pred. No. 4, 5e-11;			
Matches 2793; Conservative 0; Mismatches 0; Indels 0; Gaps 0;			
Qy	114	GTTCCTTTAGTGAATCCATAGCATGATTTGCAATTGAGACAGACGTCCTCACTTTGAA	173

D 910 GTTTCCTTAGTGTATCCATAGACGTTATTGCAATTGGAGACAGTCCCTCACTTTGAA 965
Q 174 ACCTCGCAATAGCCCGAGAGAGCTGCTTTCATATTTTCCAGGTATTGATAGAAAACC 233
D 970 ACCCTCCCAATAGCCCGAGAGAGCTGCTTTCATATTTTCCAGGTATTGATAGAAAACC 1029
Q 234 AGTATATATACCTTTCCAGAGCTGTGATTAACCTGATCCATAGAAAGAACTGTGGAA 293
D 1030 AGTATATATACCTTTCCAGAGCTGTGATTAACCTGATCCATAGAAAGAACTGTGGAA 1089
Q 294 TTTAAATATGTTCTTTCATATTCATCAAGACATCTATCAAGATTTCTGAAGGTCTG 353
D 1090 TTTAAATATGTTCTTTCATATTCATCAAGACATCTATCAAGATTTCTGAAGGTCTG 1149
Q 354 AATCTCGAATTAAGCTGTGAGAGACAGTGCCTTGGTGGTCTCAATGGCAGTGGAG 413
D 1150 AATCTCGAATTAAGCTGTGAGAGACAGTGCCTTGGTGGTCTCAATGGCAGTGGAG 1209
Q 414 AGTACGGTAGTCCAGCTTCTGAGAGGTATATGATCCGATGATGGCTTTATCATGCTG 473
D 1210 AGTACGGTAGTCCAGCTTCTGAGAGGTATATGATCCGATGATGGCTTTATCATGCTG 1269
Q 474 GATGAGATGACATCAGAGCTTTAAATGTGCGGCAATTGAGACCATATTGGAGTGGT 533
D 1270 GATGAGATGACATCAGAGCTTTAAATGTGCGGCAATTGAGACCATATTGGAGTGGT 1329
Q 534 AGTCAGAGCTGTTTGTGCGGACCAATCATGTAACAATCAAGTATGACGAGAT 593
D 1330 AGTCAGAGCTGTTTGTGCGGACCAATCATGTAACAATCAAGTATGACGAGAT 1389
Q 594 GATGTGCTGATGAAGATGAGAGAGCAGCAAGGAAAGGAAATGGTATGATTTATC 653
D 1390 GATGTGCTGATGAAGATGAGAGAGCAGCAAGGAAAGGAAATGGTATGATTTATC 1449
Q 654 ATGAGGTTCTTAAATTAATTAATATACATTGTAGGGGAAAAAGAGCTCAATGAGTGA 713
D 1450 ATGAGGTTCTTAAATTAATTAATATACATTGTAGGGGAAAAAGAGCTCAATGAGTGA 1509
Q 714 GGGCAGAAACAGAGATCGCAATTTGCTGTCGCTTACTAGTGAACCCCAAGATTCTGAT 773
D 1510 GGGCAGAAACAGAGATCGCAATTTGCTGTCGCTTACTAGTGAACCCCAAGATTCTGAT 1569
Q 774 TTGATGAGGCTGCTGCTGCTGCTGATTCAGAAAGCAAGTCACTGTTCAGGCTGACCTG 833
D 1570 TTGATGAGGCTGCTGCTGCTGCTGATTCAGAAAGCAAGTCACTGTTCAGGCTGACCTG 1629
Q 834 GAGAGGCGAGCAAGAGTCCGACTACATCGTGTAGACACGAGCTTTCTACTATTGCA 893
D 1630 GAGAGGCGAGCAAGAGTCCGACTACATCGTGTAGACACGAGCTTTCTACTATTGCA 1689
Q 894 AGTGCAGATTGATTTGTGACCTTAAAGATGAAATGCTGGCGAGAAAGAGACATGCT 953
D 1690 AGTGCAGATTGATTTGTGACCTTAAAGATGAAATGCTGGCGAGAAAGAGACATGCT 1749
Q 954 GAATATAGGCAAAAGAGGCTATATATTTCACTTGTGATGTCACAGATATTTAAAAA 1013
D 1750 GAATATAGGCAAAAGAGGCTATATATTTCACTTGTGATGTCACAGATATTTAAAAA 1809
Q 1014 GCTGATGAACAGATGAGTCAATGATATTTCTACTGAAGAAAGCAATCACTTCCCT 1073
D 1810 GCTGATGAACAGATGAGTCAATGATATTTCTACTGAAGAAAGCAATCACTTCCCT 1869
Q 1074 CTGCACTCTGTGAAGAGCATCAAGTCAATGACAGGCTGAGGAAATCCACCCAA 1133
D 1870 CTGCACTCTGTGAAGAGCATCAAGTCAATGACAGGCTGAGGAAATCCACCCAA 11929
Q 1134 TCTAAGAGATAGTCTTCTGAAAGTCTCTATTTAAAAATTTTAAAGTTAAACAAGCT 1193
D 1930 TCTAAGAGATAGTCTTCTGAAAGTCTCTATTTAAAAATTTTAAAGTTAAACAAGCT 11989
Q 1194 GAATGACCTTTTGTGCTGAGGACATTTGGCTTCTTAAATGAAGCTGTTCATCA 1253
D 1990 GAATGACCTTTTGTGCTGAGGACATTTGGCTTCTTAAATGAAGCTGTTCATCA 2049

Q 1254 GATTTTCCATCATCTTTGCAAAAAATTAACCATGTTTGAATAATGATTAACACACA 1313
D 2050 GATTTTCCATCATCTTTGCAAAAAATTAACCATGTTTGAATAATGATTAACACACA 2109
Q 1314 TTAAGCATATGACAGAAATTTATTCATCATATTTGTCATTTTGGGTGTTATTTGCTT 1373
D 2110 TTAAGCATATGACAGAAATTTATTCATCATATTTGTCATTTTGGGTGTTATTTGCTT 2169
Q 1374 GTCAGTTATTTATGACAGGATTAATTTTACGCGAGAGCAGGGGAAATTTTAAAGATGAG 1433
D 2170 GTCAGTTATTTATGACAGGATTAATTTTACGCGAGAGCAGGGGAAATTTTAAAGATGAG 2229
Q 1434 TTAAGCATTTGGCTTTCAAAAGCATGTTATATACAGATATTTGCTGTTGATGAAG 1493
D 2230 TTAAGCATTTGGCTTTCAAAAGCATGTTATATACAGATATTTGCTGTTGATGAAG 2289
Q 1494 GAAACAGCAGAGAGGCTTGACAAACATTTAGCCATATATATACCAAAATTCAGAG 1553
D 2290 GAAACAGCAGAGAGGCTTGACAAACATTTAGCCATATATATACCAAAATTCAGAG 2349
Q 1554 GCAACAGGTTCCAGATTTGGCGCTTTAACAACAAATGCAACTAATGGGACTTTCAGTT 1613
D 2350 GCAACAGGTTCCAGATTTGGCGCTTTAACAACAAATGCAACTAATGGGACTTTCAGTT 2409
Q 1614 ATCAATTCCTTATATATGATGAGATGAGATGACATTCCTGATTTCTGATATTTGCTCCAGTA 1673
D 2410 ATCAATTCCTTATATATGATGAGATGAGATGACATTCCTGATTTCTGATATTTGCTCCAGTA 2469
Q 1674 CTTCGCGTGAACAGAAATGATTAACACCGACGACATCTGATTTGCCAACAAGATTAAG 1733
D 2470 CTTCGCGTGAACAGAAATGATTAACACCGACGACATCTGATTTGCCAACAAGATTAAG 2529
Q 1734 CAAGAATTAAGGATCTGAAAGATAGCACTGAAGCTTTGGAGAAATATACCTACTATA 1793
D 2530 CAAGAATTAAGGATCTGAAAGATAGCACTGAAGCTTTGGAGAAATATACCTACTATA 2589
Q 1794 GTGTCAATTAACAAGGAAAAAGCTTTCAGCAATGTATGAAGATGCTTCAGACTCA 1853
D 2590 GTGTCAATTAACAAGGAAAAAGCTTTCAGCAATGTATGAAGATGCTTCAGACTCA 2649
Q 1854 CACAGAAATATCTCCGAAAGAACAGCATTTATGGAAGCTGTATATGACCTATGCTG 1913
D 2650 CACAGAAATATCTCCGAAAGAACAGCATTTATGGAAGCTGTATATGACCTATGCTG 2709
Q 1914 TTTATATATTTTGGCTATGACAGAGGTTTCGATTTGAGAGCTTATTAATCAAGCTGGA 1973
D 2710 TTTATATATTTTGGCTATGACAGAGGTTTCGATTTGAGAGCTTATTAATCAAGCTGGA 2769
Q 1974 CGAATGACCCCAAGAGGATGTTCAATAGTTTACTGCAATTCATATGAGCTATGAGCC 2033
D 2770 CGAATGACCCCAAGAGGATGTTCAATAGTTTACTGCAATTCATATGAGCTATGAGCC 2829
Q 2034 ATCGGAAAAAGCTGCTTTTGGCTCCTGAAATTTCCAAAGCCCAATCGGGGGCTGGCAT 2093
D 2830 ATCGGAAAAAGCTGCTTTTGGCTCCTGAAATTTCCAAAGCCCAATCGGGGGCTGGCAT 2889
Q 2094 CTGTTGCTGTTGGAAGAAAGCAATATATAGACGCGGAGTCAAGAGGAAAG 2153
D 2890 CTGTTGCTGTTGGAAGAAAGCAATATATAGACGCGGAGTCAAGAGGAAAG 2949
Q 2154 CCAGACACATGTAAGGAATTTAGATTTGAGAGATCTTTTCTTATCATATGCTGC 2213
D 2950 CCAGACACATGTAAGGAATTTAGATTTGAGAGATCTTTTCTTATCATATGCTGC 3009
Q 2214 CCAAGATTTTATCTCTCGTGCTTATTCCTGAGTATTTAGCGAGAGAAACAGTACGA 2273
D 3010 CCAAGATTTTATCTCTCGTGCTTATTCCTGAGTATTTAGCGAGAGAAACAGTACGA 3069
Q 2274 TTTTGGGGAGAGAGGCTGTGGGAAAGCACTTGCTTCAACTCTGACAGACTTAT 2333
D 3070 TTTTGGGGAGAGAGGCTGTGGGAAAGCACTTGCTTCAACTCTGACAGACTTAT 3129


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Qy 2334 GACCCGTCAGAGCAAGTCTGTTTGATGATGATGCAAAAAGATTAATGATAG 2393
Db 3130 GACCCGTCAGAGCAAGTCTGTTTGATGATGATGCAAAAAGATTAATGATAG 3189
Qy 2394 TGGCTCCGTTCCCAATAGCAATCGTTCTCAAGAGCTGTGCTTCACTGACAT 2453
Db 3190 TGGCTCCGTTCCCAATAGCAATCGTTCTCAAGAGCTGTGCTTCACTGACAT 3249
Qy 2454 GCTAGAACATCGCTATGATGACACAGCCGTGTGTCCTATTAATGATGATGAA 2513
Db 3250 GCTAGAACATCGCTATGATGACACAGCCGTGTGTCCTATTAATGATGATGAA 3309
Qy 2514 GCCGCAATGACGAATATCATCTTTATTTAGAGCTCTCCAGAGAAATACACACA 2573
Db 3310 GCCGCAATGACGAATATCATCTTTATTTAGAGCTCTCCAGAGAAATACACACA 3369
Qy 2574 CAAGTTGACATGAAAGAGCAAGCTTTCTGCGCGCCAGAAACAAAGACTAGTAT 2633
Db 3370 CAAGTTGACATGAAAGAGCAAGCTTTCTGCGCGCCAGAAACAAAGACTAGTAT 3429
Qy 2634 AGGGCTCTTCCCAAAAACCCAAATTTTATTTGATGATGAGCCACTTCAAGCTCAT 2693
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Qy 2874 TTTAAGTATGATGACAGTCAAGTGCAGTGA 2906
Db 3670 TTTAAGTATGATGACAGTCAAGTGCAGTGA 3702

RESULT 5
US-09-873-409-9
; Sequence 9 Application US/09873409
; GENERAL INFORMATION:
; APPLICANT: Sayegh, Markus
; TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein
; FILE REFERENCE: 81994/268611
; CURRENT APPLICATION NUMBER: US/09/873,409
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: Patentin version 3.0
; SEQ ID NO 9
; LENGTH: 2066
; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-873-409-9

Query Match 71.1%; Score 2066; DB 1; Length 2066;
Best Local Similarity 100.0%; Pred. No. 8.6e-08;
Matches 2066; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 121 TGGCAAAACGAGGTCTATATTTATTTCACTTGATGATGACAGGATATTAAGCTATG 180
Qy 1021 AACGATGAGTCAATGACATATTTCTAGTAAAGAAAGACCAATCTCTCTGCACT 1080
Db 181 AACGATGAGTCAATGACATATTTCTAGTAAAGAAAGACCAATCTCTCTGCACT 240
Qy 1081 CTGTGAAGAGCATGATGATGACATCTTCACTTGAAGAGGATGATGATGATGATGAT 1140
Db 241 CTGTGAAGAGCATGATGATGACATCTTCACTTGAAGAGGATGATGATGATGATGAT 300
Qy 1141 AGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1200
Db 301 AGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 360
Qy 1201 CTTTGTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1260
Db 361 CTTTGTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 420
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Db 421 CCATCATCTTTGCAAAAATTAATGATGATGATGATGATGATGATGATGATGATGAT 480
Qy 1321 ATGATGAGAAATTTATTCATGATGATGATGATGATGATGATGATGATGATGAT 1380
Db 481 ATGATGAGAAATTTATTCATGATGATGATGATGATGATGATGATGATGATGAT 540
Qy 1381 ATTTGATGAGAGATTTATTTTACGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 1440
Db 541 ATTTGATGAGAGATTTATTTTACGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 600
Qy 1441 ACTTGAGCTTCAAGGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1500
Db 601 ACTTGAGCTTCAAGGATGATGATGATGATGATGATGATGATGATGATGATGAT 660
Qy 1501 GCACAGAGGCTTGACAAATATTTAGCATGATGATGATGATGATGATGATGATGAT 1560
Db 661 GCACAGAGGCTTGACAAATATTTAGCATGATGATGATGATGATGATGATGATGAT 720
Qy 1561 GTTCCAGAGATGAGGCTTTTAAACAAATGATGATGATGATGATGATGATGATGAT 1620
Db 721 GTTCCAGAGATGAGGCTTTTAAACAAATGATGATGATGATGATGATGATGATGAT 780
Qy 1621 CCTTATATATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1680
Db 781 CCTTATATATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 840
Qy 1681 TGACAGAAATGATGAAACCGACGATGATGATGATGATGATGATGATGATGATGAT 1740
Db 841 TGACAGAAATGATGAAACCGACGATGATGATGATGATGATGATGATGATGATGAT 900
Qy 1741 TTAAGATGCTGAGAAAGATGCAATGAGCTTTGAGAAATATAGTATAGTATAT 1800
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Qy 1801 TTAACAGGAGAAAGCCCTTGAGCAATGATGATGATGATGATGATGATGATGAT 1860
Db 961 TTAACAGGAGAAAGCCCTTGAGCAATGATGATGATGATGATGATGATGATGAT 1020
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Db 1021 ATACCTGAGAGAAAGCAGATTTATGGAAGCTGTATGATGATGATGATGATGATGAT 1080
Qy 1921 ATTTGCTATGAGAGAGGTTTGAATTTGAGAGCTTATTAATTTCAAGCTGAGAA 1980
Db 1081 ATTTGCTATGAGAGAGGTTTGAATTTGAGAGCTTATTAATTTCAAGCTGAGAA 1140
Qy 1981 CCCAGAGGAGATTTATGATGATGATGATGATGATGATGATGATGATGATGATGAT 2040
Db 1141 CCCAGAGGAGATTTATGATGATGATGATGATGATGATGATGATGATGATGATGAT 1200
Qy 2041 AAAAGCTGTTTGGCTCTGATATTTCAAAAGCAATCGAGGAGCTGCGATCTGTTTG 2100

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Db      1201 AAACGCTGTTTGGCTTCGAAATATTCAGAAAGCCAAATGCGGGGCTCCGCACTGTGTTG 1260
Qy      2101 CCTGTGTGAAAAGAAAACCAATATAGACAGCCGAGTCAAGAGGAAAAAGCCAGACA 2160
Db      1261 CTTGTGTGAAAAGAAAACCAATATAGACAGCCGAGTCAAGAGGAAAAAGCCAGACA 1320
Qy      2161 CATGTGAAGGGAATTTAGAGTTTGAAGAGTCTCTTTCTTCTATCCATGTCGCCAGATG 2220
Db      1321 CATGTGAAGGGAATTTAGAGTTTGAAGAGTCTCTTTCTTCTATCCATGTCGCCAGATG 1380
Qy      2221 TTTTCATCTCCCGGGCTTATCCCTCAGTATGAGGAGGAAAAAGCAAGTACATTTGTG 2280
Db      1381 TTTTCATCTCCCGGGCTTATCCCTCAGTATGAGGAGGAAAAAGCAAGTACATTTGTG 1440
Qy      2281 GAGACAGCGGCTGTGGGAAAAAGCACTTCTGTTCACCTTGCAGAGACTTTATGACCCG 2340
Db      1441 GAGACAGCGGCTGTGGGAAAAAGCACTTCTGTTCACCTTGCAGAGACTTTATGACCCG 1500
Qy      2341 TGCAGAGCAAGTCTGTGTTGATGTGTGATGCAAAAGAAATGATGACAGTGCCTC 2400
Db      1501 TGCAGAGCAAGTCTGTGTTGATGTGTGATGCAAAAGAAATGATGACAGTGCCTC 1560
Qy      2401 GTTCCCAATATAGCAATGTTCTCAAGAGCTGTGCTTCACTGAGAGATTTGTGAG 2460
Db      1561 GTTCCCAATATAGCAATGTTCTCAAGAGCTGTGCTTCACTGAGAGATTTGTGAG 1620
Qy      2461 ACATGCGCTATGTGACAAAGCCGTGTGTGCTTATGATGATGATCAAAAGAGCCGCA 2520
Db      1621 ACATGCGCTATGTGACAAAGCCGTGTGTGCTTATGATGATGATCAAAAGAGCCGCA 1680
Qy      2521 ATGAGCAAAATATCATTCTTTTATTTAGAGTCTCTCTGAGAAATACACACACAGTTG 2580
Db      1681 ATGAGCAAAATATCATTCTTTTATTTAGAGTCTCTCTGAGAAATACACACACAGTTG 1740
Qy      2581 GACTGAAGAGGACAGCTTCTGCGGCGGCAAGAAACAAAGCTATGCAAGGGCTC 2640
Db      1741 GACTGAAGAGGACAGCTTCTGCGGCGGCAAGAAACAAAGCTATGCAAGGGCTC 1800
Qy      2641 TTCTCCAAAACCCAAATTTTATTTGATGATGAGGCACTTCAAGCCCTGATATGACA 2700
Db      1801 TTCTCCAAAACCCAAATTTTATTTGATGATGAGGCACTTCAAGCCCTGATATGACA 1860
Qy      2701 GTGAGAGGTGTGTTCAAGATGCCCTTATTAAGCCAGAGCGGAGAGACATGCTAGTGG 2760
Db      1861 GTGAGAGGTGTGTTCAAGATGCCCTTATTAAGCCAGAGCGGAGAGACATGCTAGTGG 1920
Qy      2761 TCACTCAGAGCTCTGCAATTCAGAAAGGAGTTGATGAGTCTTCAACAATGGA 2820
Db      1921 TCACTCAGAGCTCTGCAATTCAGAAAGGAGTTGATGAGTCTTCAACAATGGA 1980
Qy      2821 AGATAAAGAAACAAGAACTCATCAAGAGCTCTGAGAAATCGAGACATATATTTAAGT 2880
Db      1981 AGATAAAGAAACAAGAACTCATCAAGAGCTCTGAGAAATCGAGACATATATTTAAGT 2940
Qy      2881 TAGTGAATGCAAGTCACTGTCAGTGA 2906
Db      2041 TAGTGAATGCAAGTCACTGTCAGTGA 2066

```

RESULT 6

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US-09-873-409-11
; Sequence 11, Application US/09873409
; GENERAL INFORMATION:
; APPLICANT: Frank, Markus
; APPLICANT: Sayeh, Mohamed
; TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein
; FILE REFERENCE: 81994/268611
; CURRENT APPLICATION NUMBER: US/09/873,409
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 11

```

```

; LENGTH: 1175
; TYPE: DNA
; ORGANISM: Homo sapiens
US-09-873-409-11
Query Match 26.0%; Score 755.2; DB 1; Length 1175;
Best Local Similarity 93.7%; P-Id: 0.043;
Matches 792; Conservative 0; Mismatches 3; Indels 50; Gaps 1;

```

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Qy      1 CCTAATTCCTTAATATCTCTGTGAGCTTAACCAATATATATATATATATATAT 60
Db      1 CCTAATTCCTTAATATCTCTGTGAGCTTAACCAATATATATATATATATATAT 60
Qy      61 GTCTTTCTTATATATATATATATATATATATATATATATATATATATATATAT 120
Db      61 GTCTTTCTTATATATATATATATATATATATATATATATATATATATATATAT 120
Qy      121 TTATGTAATCCATAGCATTTATGATGAGAGAGAGTCCCTCACTTTGAAACCTTG 180
Db      121 TTATGTAATCCATAGCATTTATGATGAGAGAGAGTCCCTCACTTTGAAACCTTG 180
Qy      181 CAATAGCCGAGAGAGTCCCTTCAATATTTTCAAGTTATGATTAAGAAACCAATAG 240
Db      167 -----TTATGTAATGAAACCAATAG 190
Qy      241 ATAACTTTTCCAGCTGATATATAAATCTGAATCCATAGAGAGAGTGTGAATTTAAA 300
Db      191 ATAACTTTTCCAGCTGATATATAAATCTGAATCCATAGAGAGAGTGTGAATTTAAA 250
Qy      301 ATGTTCTTTCAATTTATCCATCAAGACATCTATCAAGATTCTGAAAGTCTGAATCTCA 360
Db      251 ATGTTCTTTCAATTTATCCATCAAGACATCTATCAAGATTCTGAAAGTCTGAATCTCA 310
Qy      361 GAATTAAGTCTGAGAGAGAGTCCCTGTGCTCATGAGCAGTGGGAAAGATGACG 420
Db      311 GAATTAAGTCTGAGAGAGAGTCCCTGTGCTCATGAGCAGTGGGAAAGATGACG 370
Qy      421 TAGTCCAGCTTCTGAGAGGTTATATATATCCGAGTATGAGTATCATGATGATGAG 480
Db      371 TAGTCCAGCTTCTGAGAGGTTATATATATCCGAGTATGAGTATCATGATGATGAG 430
Qy      481 ATGACATCAAGCTTTTAAATGTGCGGCAATTTATGAGACCAATTTGAGAGTGTCAAG 540
Db      431 ATGACATCAAGCTTTTAAATGTGCGGCAATTTATGAGACCAATTTGAGAGTGTCAAG 490
Qy      541 AGCCTGTTTGTGCGGAGCAACCATCATGATCAATATCAAGTATGAGAGATGATG 600
Db      491 AGCCTGTTTGTGCGGAGCAACCATCATGATCAATATCAAGTATGAGAGATGATG 550
Qy      601 CTGATGAAGATGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 660
Db      551 CTGATGAAGATGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG 610
Qy      661 TTCTTAATTAATTTATATATATGATGAGGAGAGAGAGAGAGAGAGAGAGAGAG 720
Db      611 TTCTTAATTAATTTATATATATGATGAGGAGAGAGAGAGAGAGAGAGAGAGAG 670
Qy      721 AACAGAGATGAGAGATGCTGCTGCTTATGAGAGAGAGAGAGAGAGAGAGAGAG 780
Db      671 AACAGAGATGAGAGATGCTGCTGCTTATGAGAGAGAGAGAGAGAGAGAGAGAG 730
Qy      781 AGGCTAAGTCTGCTGCTGATTTCAAGAAAGAGAGAGAGAGAGAGAGAGAGAG 840
Db      731 AGGCTAAGTCTGCTGATTTCAAGAAAGAGAGAGAGAGAGAGAGAGAGAGAGAG 790
Qy      841 CAGAC 845
Db      791 ATACC 795

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RESULT 7

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US-09-873-409-16
; Sequence 16, Application US/09873409

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GENERAL INFORMATION:
APPLICANT: Frank, Markus
TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein
FILE REFERENCE: 81994/26861
CURRENT APPLICATION NUMBER: US/09/873.409
CURRENT FILING DATE: 2001-06-05
NUMBER OF SEQ ID NOS: 19
SOFTWARE: PatentIn version 3.0
SEQ ID NO 16
LENGTH: 1940
TYPE: DNA
ORGANISM: Homo sapiens
US-09-873-409-16

Query Match 25.0%; Score 727.2; DB 1; Length 1940;
Best Local Similarity 99.6%; Pred. No. 0.034;
Matches 729; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

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Qy 114 GTTTCCTTAGTGAATCCATAGAGCTGATGATGAGAGAGAGCTCCCTCACTTTGAA 173
Db 829 GTTTCCTTAGTGAATCCATAGAGCTGATGATGAGAGAGAGCTCCCTCACTTTGAA 888
Qy 174 ACCTTCGCAATAGCCCGAGAGAGCTGCTTCATATTTTCCAGTTATGATAGAAACC 233
Db 889 ACCTTCGCAATAGCCCGAGAGAGCTGCTTCATATTTTCCAGTTATGATAGAAACC 948
Qy 234 AGTATAGATACTTTTCCACAGCTGATATTAACCTGAATCCATGANGAACTGTGAA 293
Db 949 AGTATAGATACTTTTCCACAGCTGATATTAACCTGAATCCATGANGAACTGTGAA 1008
Qy 294 TTTTAAATGTTCTTCAATATTCATCAAGACATATATCAATCTGAAGAGCTG 353
Db 1009 TTTTAAATGTTCTTCAATATTCATCAAGACATATATCAATCTGAAGAGCTG 1068
Qy 354 AATCTCAGAAATTAAGTCTGAGAGAGAGCTGCTGCTGCTCAATGAGAGTGGAG 413
Db 1069 AATCTCAGAAATTAAGTCTGAGAGAGAGCTGCTGCTGCTCAATGAGAGTGGAG 1128
Qy 414 AGTACGGTAGTCCAGCTTCTGAGAGAGTATATGATCCGATGATGCTTTATCATGTG 473
Db 1129 AGTACGGTAGTCCAGCTTCTGAGAGAGTATATGATCCGATGATGCTTTATCATGTG 1188
Qy 474 GATGAGATGATCAGAGCTTTAAATGCGCGCATTAATCAGACATATGAGAGTGT 533
Db 1189 GATGAGATGATCAGAGCTTTAAATGCGCGCATTAATCAGACATATGAGAGTGT 1248
Qy 534 AGTCAAGAGCTGTTTGTGCGGACCAATCAGTAACAATATCAAGTATGAGAGAT 593
Db 1249 AGTCAAGAGCTGTTTGTGCGGACCAATCAGTAACAATATCAAGTATGAGAGAT 1308
Qy 594 GATGACTGATGAGAGATGAGAGAGCAGCAAGGAGCAATGCGTATGATTTTATC 653
Db 1309 GATGACTGATGAGAGATGAGAGAGCAGCAAGGAGCAATGCGTATGATTTTATC 1368
Qy 654 ATGAGATTCTTAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAAT 713
Db 1369 ATGAGATTCTTAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAAT 1428
Qy 714 GGGCAGAAACAGAGATGCAATTTGCTGCTGCTTGAATCCCAAGATTCTGAT 773
Db 1429 GGGCAGAAACAGAGATGCAATTTGCTGCTGCTTGAATCCCAAGATTCTGAT 1488
Qy 774 TTAGATGAGGCTACGCTGCTGCTGATTCAGAAAGCAAGTCAAGCTGCACTG 833
Db 1489 TTAGATGAGGCTACGCTGCTGCTGATTCAGAAAGCAAGTCAAGCTGCACTG 1548
Qy 834 GAGAGAGGAGAG 845
Db 1549 GAGAGAGATACC 1560
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RESULT 8
US-09-873-409-15

Sequence 15, Application US/09873409

GENERAL INFORMATION:
APPLICANT: Frank, Markus
TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein
FILE REFERENCE: 81994/26861
CURRENT APPLICATION NUMBER: US/09/873.409
CURRENT FILING DATE: 2001-06-05
NUMBER OF SEQ ID NOS: 19
SOFTWARE: PatentIn version 3.0
SEQ ID NO 15
LENGTH: 2021
TYPE: DNA
ORGANISM: Homo sapiens
FEATURE:
NAME/KEY: Note
LOCATION: (723)..(723)
OTHER INFORMATION: n at position 723 represents any nucleotide (A, T, C or G)
US-09-873-409-15

Query Match 25.0%; Score 727.2; DB 1; Length 2021;
Best Local Similarity 99.6%; Pred. No. 0.033;
Matches 729; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

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Qy 114 GTTTCCTTAGTGAATCCATAGAGCTGATGATGAGAGAGAGCTCCCTCACTTTGAA 173
Db 910 GTTTCCTTAGTGAATCCATAGAGCTGATGATGAGAGAGAGCTCCCTCACTTTGAA 969
Qy 174 ACCTTCGCAATAGCCCGAGAGAGCTGCTTCATATTTTCCAGTTATGATAGAAACC 233
Db 970 ACCTTCGCAATAGCCCGAGAGAGCTGCTTCATATTTTCCAGTTATGATAGAAACC 1029
Qy 234 AGTATAGATACTTTTCCACAGCTGATATTAACCTGAATCCATGANGAACTGTGAA 293
Db 1030 AGTATAGATACTTTTCCACAGCTGATATTAACCTGAATCCATGANGAACTGTGAA 1089
Qy 294 TTTTAAATGTTCTTCAATATTCATCAAGACATATATCAAGATTTGAGAGTGTG 353
Db 1090 TTTTAAATGTTCTTCAATATTCATCAAGACATATATCAAGATTTGAGAGTGTG 1149
Qy 354 AATCTCAGAAATTAAGTCTGAGAGAGAGCTGCTGCTGCTCAATGAGAGTGGAG 413
Db 1150 AATCTCAGAAATTAAGTCTGAGAGAGAGCTGCTGCTGCTCAATGAGAGTGGAG 1209
Qy 414 AGTACGGTAGTCCAGCTTCTGAGAGAGTATATGATCCGATGATGCTTTATCATGTG 473
Db 1210 AGTACGGTAGTCCAGCTTCTGAGAGAGTATATGATCCGATGATGCTTTATCATGTG 1269
Qy 474 GATGAGATGATCAGAGCTTTAAATGCGCGCATTAATGAGACATATGAGAGTGT 533
Db 1270 GATGAGATGATCAGAGCTTTAAATGCGCGCATTAATGAGACATATGAGAGTGT 1329
Qy 534 AGTCAAGAGCTGTTTGTGCGGACCAATCAGTAACAATTAATCAAGTATGAGAGAT 593
Db 1330 AGTCAAGAGCTGTTTGTGCGGACCAATCAGTAACAATTAATCAAGTATGAGAGAT 1389
Qy 594 GATGACTGATGAGAGATGAGAGAGCAGCAAGGAGCAATGCGTATGATTTTATC 653
Db 1390 GATGACTGATGAGAGATGAGAGAGCAGCAAGGAGCAATGCGTATGATTTTATC 1449
Qy 654 ATGAGATTCTTAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAAT 713
Db 1450 ATGAGATTCTTAATTAATTAATTAATTAATTAATTAATTAATTAATTAATTAAT 1509
Qy 714 GGGCAGAAACAGAGATGCAATTTGCTGCTGCTTGAATCCCAAGATTCTGAT 773
Db 1510 GGGCAGAAACAGAGATGCAATTTGCTGCTGCTTGAATCCCAAGATTCTGAT 1569
Qy 774 TTAGATGAGGCTACGCTGCTGCTGATTCAGAAAGCAAGTCAAGCTGCACTG 833
Db 1569 TTAGATGAGGCTACGCTGCTGCTGATTCAGAAAGCAAGTCAAGCTGCACTG 833
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Db	1570	TTAGATGAGGCTACGCTCTGCCCTGGATTGAAAGCAAGTCAGCTGTTCAAGCTGCACTG	1629
Qy	834	GAGAGGCGAGC	845
Db	1630	GAGAGGATACC	1641

Search completed: December 18, 2003, 13:02:09
Job time : 34 secs

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OM protein - protein search, using sw model

Run on: December 18, 2003, 12:57:21 ; Search time 1 Seconds
(without alignments)
4.979 Million cell updates/sec

Title: AAO73470
Perfect score: 4079
Sequence: 1 mvndndiralnvrhryhig.....qellmrndiyfklvnaqsvq 812

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 8 seqs, 6132 residues

Total number of hits satisfying chosen parameters: 8

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 8 summaries

Database : US09873409.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	4079	100.0	812	1	US-09-873-409-2
2	4079	100.0	1058	1	US-09-873-409-4
3	4079	100.0	1195	1	US-09-873-409-6
4	4079	100.0	1222	1	US-09-873-409-5
5	3323	81.5	659	1	US-09-873-409-1
6	828	20.3	514	1	US-09-873-409-8
7	812.5	19.9	541	1	US-09-873-409-7
8	619	15.2	131	1	US-09-873-409-3

ALIGNMENTS

RESULT 1
US-09-873-409-2

Sequence 2, Application US/09873409

GENERAL INFORMATION:

APPLICANT: Frank, Markus

APPLICANT: Sayegh, Mohamed

TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein

TITLE OF INVENTION: Homologue on Chromosome 7p15-21 and Uses Thereof

FILE REFERENCE: 81994/268611

CURRENT APPLICATION NUMBER: US/09/873,409

CURRENT FILING DATE: 2001-06-05

NUMBER OF SEQ ID NOS: 19

SOFTWARE: PatentIn version 3.0

SEQ ID NO 2

LENGTH: 812

TYPE: PRT

ORGANISM: Homo sapiens

US-09-873-409-2

Query Match 100.0%; Score 4079; DB 1; Length 812;

Best Local Similarity 100.0%; Pred. No. 0;
Matches 812; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1		RVNRHRRDHIGVSGEPLFGTTISNNIKYGGDDVTDEMEBAEANAAYD	60
Db	1		RVNRHRRDHIGVSGEPLFGTTISNNIKYGGDDVTDEMEBAEANAAYD	60
Qy	61		FMEFPNKKFTLVGEKAGQSGGQKRIATARALVRNPKLILDEATSAIDSEKSAVQA	120
Db	61		FMEFPNKKFTLVGEKAGQSGGQKRIATARALVRNPKLILDEATSAIDSEKSAVQA	120
Qy	121		ALEKASGRRTTVAAHRLSTIRSDLIIVTLKDGMALAEKGAHAELMARGLYSLVMSODI	180
Db	121		ALEKASGRRTTVAAHRLSTIRSDLIIVTLKDGMALAEKGAHAELMARGLYSLVMSODI	180
Qy	181		KKADEQWESMTSTERTKNSLPLHSVSTKSDPFDKAEESQSKISLPEVSLKTKLKN	240
Db	181		KKADEQWESMTSTERTKNSLPLHSVSTKSDPFDKAEESQSKISLPEVSLKTKLKN	240
Qy	241		KPEWPFVVLGTLASVLNGTVHPVPSIIFAKITTFGNNDKTTLGHDAEYSMIFVILGVI	300
Db	241		KPEWPFVVLGTLASVLNGTVHPVPSIIFAKITTFGNNDKTTLGHDAEYSMIFVILGVI	300
Qy	301		CFVSYFMQGLFYGRAGEILTWRLRLHLPKAMLVODIAMPEKENSTGGLTTILAIDIAOI	360
Db	301		CFVSYFMQGLFYGRAGEILTWRLRLHLPKAMLVODIAMPEKENSTGGLTTILAIDIAOI	360
Qy	361		QGATGSRIGVLTQNAATMGSLSVIISFTYGMETFLIISAPVLAVTGMETRAATGPAK	420
Db	361		QGATGSRIGVLTQNAATMGSLSVIISFTYGMETFLIISAPVLAVTGMETRAATGPAK	420
Qy	421		DKOELKAGKATATALENIRITVSLTREKAFEQWYEELQTOHNTSKAQIISCYAFS	480
Db	421		DKOELKAGKATATALENIRITVSLTREKAFEQWYEELQTOHNTSKAQIISCYAFS	480
Qy	481		HAFIYFAVAGFRGAVLIQAGRTPEGMPIVFTAIYAGAAIGKTLVLAEYSKASGA	540
Db	481		HAFIYFAVAGFRGAVLIQAGRTPEGMPIVFTAIYAGAAIGKTLVLAEYSKASGA	540
Qy	541		AHLFALLEKRPNDISROEGKPTCCGNLEFRVSFFYPFRPVFLIRGLSLSIEKKT	600
Db	541		AHLFALLEKRPNDISROEGKPTCCGNLEFRVSFFYPFRPVFLIRGLSLSIEKKT	600
Qy	601		VAFVSSGCGKSTVOLRLYDPVQGVLPDGVDAKELNQMRLSQAIVPOEPVLPNC	660
Db	601		VAFVSSGCGKSTVOLRLYDPVQGVLPDGVDAKELNQMRLSQAIVPOEPVLPNC	660
Qy	661		SIENIAYGDSRVPLDEIKKAANAANHSFIEGLPEKXNTQVGLGAQSLSGQKORLA	720
Db	661		SIENIAYGDSRVPLDEIKKAANAANHSFIEGLPEKXNTQVGLGAQSLSGQKORLA	720
Qy	721		IARALLQKPKLILDEATSAIDNDSERVQHALDKARTGRTCLVTHRLSAIQNADLIIV	780
Db	721		IARALLQKPKLILDEATSAIDNDSERVQHALDKARTGRTCLVTHRLSAIQNADLIIV	780
Qy	781		LHNGKIKEOGTHQELRNBDIYFCLVNAQSVQ	812
Db	781		LHNGKIKEOGTHQELRNBDIYFCLVNAQSVQ	812

RESULT 2
US-09-873-409-4

Sequence 4, Application US/09873409

GENERAL INFORMATION:

APPLICANT: Frank, Markus

APPLICANT: Sayegh, Mohamed

TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein

TITLE OF INVENTION: Homologue on Chromosome 7p15-21 and Uses Thereof

FILE REFERENCE: 81994/268611

CURRENT APPLICATION NUMBER: US/09/873,409

CURRENT FILING DATE: 2001-06-05

NUMBER OF SEQ ID NOS: 19

SOFTWARE: PatentIn version 3.0

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; SEQ ID NO 4
; LENGTH: 1058
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: Note
; LOCATION: (66)..(66)
; OTHER INFORMATION: Xaa at position 66 represents any L amino acid
US-09-873-409-4

```

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Query Match      100.0%; Score 4079; DB 1; Length 1058;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 812; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY 1 MVDENDIRALNVHRHVDHIGVSOEVLFGTTISNNIKYGRDVTDEMERARANAAYD 60
DB 247 MVDENDIRALNVHRHVDHIGVSOEVLFGTTISNNIKYGRDVTDEMERARANAAYD 306
QY 61 FIMEFPNKFNTLVGEKGAQMSGQKORIAIARALVNPXKLLIDEATSALDSSEKSAVQA 120
DB 307 FIMEFPNKFNTLVGEKGAQMSGQKORIAIARALVNPXKLLIDEATSALDSSEKSAVQA 366
QY 121 ALEKASGRTTIVVHRLSTIRSDLIIVTLKDGMLEKGAHAEIMARKGLYSLVMSODI 180
DB 367 ALEKASGRTTIVVHRLSTIRSDLIIVTLKDGMLEKGAHAEIMARKGLYSLVMSODI 426
QY 181 KKADQESMTYSTERKTNSLPLHSVKSISDPIDKAESSTQSKESLPEVSLKTLKLN 240
DB 427 KKADQESMTYSTERKTNSLPLHSVKSISDPIDKAESSTQSKESLPEVSLKTLKLN 486
QY 241 KPMPFVVLGTLASVLANGTVHPVFSIIFAKIITWFGNNDKTTLKDAEISMTFVLIGVI 300
DB 487 KPMPFVVLGTLASVLANGTVHPVFSIIFAKIITWFGNNDKTTLKDAEISMTFVLIGVI 546
QY 301 CFVSYFMQGLFYGRAGEILLMRLRLHLPFKAMLYODIAMPDEKENSIGGLTTIIAIDIAOI 360
DB 547 CFVSYFMQGLFYGRAGEILLMRLRLHLPFKAMLYODIAMPDEKENSIGGLTTIIAIDIAOI 606
QY 361 QGATGSRIGVLTQNAITMGLSVIISFIYGMEMFTLLISTAPVLAVTGMITAMTGPAK 420
DB 607 QGATGSRIGVLTQNAITMGLSVIISFIYGMEMFTLLISTAPVLAVTGMITAMTGPAK 666
QY 421 DKQELKHAGKIATEALENIRITIVSLTREKAFEQMYEEMLOTQHRNTSKAQIIGSCYAFS 480
DB 667 DKQELKHAGKIATEALENIRITIVSLTREKAFEQMYEEMLOTQHRNTSKAQIIGSCYAFS 726
QY 481 HAFIYFAVAAAGFRFGAYLIQAGMTPEGMFVFTAIAYGAMAIKGLTVLAPEYSKAKSGA 540
DB 727 HAFIYFAVAAAGFRFGAYLIQAGMTPEGMFVFTAIAYGAMAIKGLTVLAPEYSKAKSGA 786
QY 541 AHLPALLEKKNPNDSSQEGKKPDTCEGNLEFREVSPFYPCRPDVFTLRGLSISIERGKT 600
DB 787 AHLPALLEKKNPNDSSQEGKKPDTCEGNLEFREVSPFYPCRPDVFTLRGLSISIERGKT 846
QY 601 VAFVSSGGCKSTSVQLLQRLYDPVOGOVLPDGVDAKEINVOQLRSQIAIVPQEPVLVNC 660
DB 847 VAFVSSGGCKSTSVQLLQRLYDPVOGOVLPDGVDAKEINVOQLRSQIAIVPQEPVLVNC 906
QY 661 SIENIAVGNRSRVPLDEIKEAANAANIHSPFIEGLPEKNTQVGLKGAQISGGQKORLA 720
DB 907 SIENIAVGNRSRVPLDEIKEAANAANIHSPFIEGLPEKNTQVGLKGAQISGGQKORLA 966
QY 721 IARALLQKPKILLDEATSALDNDSEKVOHALDKARTGTCVVTHTRLSAIQNADLIIV 780
DB 967 IARALLQKPKILLDEATSALDNDSEKVOHALDKARTGTCVVTHTRLSAIQNADLIIV 1026
QY 781 LHNGKIKEGTHQELLRNDIYFETLVNAQSVQ 812
DB 1027 LHNGKIKEGTHQELLRNDIYFETLVNAQSVQ 1058

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RESULT 3
US-09-873-409-6

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; Sequence 6, Application US/09873409
; GENERAL INFORMATION:
; APPLICANT: Frank, Markus
; TITLE OF INVENTION: A gene encoding a multidrug Resistance Human P-Glycoprotein
; FILE REFERENCE: 81994/268611
; CURRENT APPLICATION NUMBER: US/09/873,409
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 6
; LENGTH: 1195
; TYPE: PRT
; ORGANISM: Homo sapiens
US-09-873-409-6

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```

Query Match      100.0%; Score 4079; DB 1; Length 1195;
Best Local Similarity 100.0%; Pred. No. 0;
Matches 812; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY 1 MVDENDIRALNVHRHVDHIGVSOEVLFGTTISNNIKYGRDVTDEMERARANAAYD 60
DB 384 MVDENDIRALNVHRHVDHIGVSOEVLFGTTISNNIKYGRDVTDEMERARANAAYD 443
QY 61 FIMEFPNKFNTLVGEKGAQMSGQKORIAIARALVNPXKLLIDEATSALDSSEKSAVQA 120
DB 444 FIMEFPNKFNTLVGEKGAQMSGQKORIAIARALVNPXKLLIDEATSALDSSEKSAVQA 503
QY 121 ALEKASGRTTIVVHRLSTIRSDLIIVTLKDGMLEKGAHAEIMARKGLYSLVMSODI 180
DB 504 ALEKASGRTTIVVHRLSTIRSDLIIVTLKDGMLEKGAHAEIMARKGLYSLVMSODI 563
QY 181 KKADQESMTYSTERKTNSLPLHSVKSISDPIDKAESSTQSKESLPEVSLKTLKLN 240
DB 564 KKADQESMTYSTERKTNSLPLHSVKSISDPIDKAESSTQSKESLPEVSLKTLKLN 623
QY 241 KPMPFVVLGTLASVLANGTVHPVFSIIFAKIITWFGNNDKTTLKDAEISMTFVLIGVI 300
DB 624 KPMPFVVLGTLASVLANGTVHPVFSIIFAKIITWFGNNDKTTLKDAEISMTFVLIGVI 683
QY 301 CFVSYFMQGLFYGRAGEILLMRLRLHLPFKAMLYODIAMPDEKENSIGGLTTIIAIDIAOI 360
DB 684 CFVSYFMQGLFYGRAGEILLMRLRLHLPFKAMLYODIAMPDEKENSIGGLTTIIAIDIAOI 743
QY 361 QGATGSRIGVLTQNAITMGLSVIISFIYGMEMFTLLISTAPVLAVTGMITAMTGPAK 420
DB 744 QGATGSRIGVLTQNAITMGLSVIISFIYGMEMFTLLISTAPVLAVTGMITAMTGPAK 803
QY 421 DKQELKHAGKIATEALENIRITIVSLTREKAFEQMYEEMLOTQHRNTSKAQIIGSCYAFS 480
DB 804 DKQELKHAGKIATEALENIRITIVSLTREKAFEQMYEEMLOTQHRNTSKAQIIGSCYAFS 863
QY 481 HAFIYFAVAAAGFRFGAYLIQAGMTPEGMFVFTAIAYGAMAIKGLTVLAPEYSKAKSGA 540
DB 864 HAFIYFAVAAAGFRFGAYLIQAGMTPEGMFVFTAIAYGAMAIKGLTVLAPEYSKAKSGA 923
QY 541 AHLPALLEKKNPNDSSQEGKKPDTCEGNLEFREVSPFYPCRPDVFTLRGLSISIERGKT 600
DB 924 AHLPALLEKKNPNDSSQEGKKPDTCEGNLEFREVSPFYPCRPDVFTLRGLSISIERGKT 983
QY 601 VAFVSSGGCKSTSVQLLQRLYDPVOGOVLPDGVDAKEINVOQLRSQIAIVPQEPVLVNC 660
DB 984 VAFVSSGGCKSTSVQLLQRLYDPVOGOVLPDGVDAKEINVOQLRSQIAIVPQEPVLVNC 1043
QY 661 SIENIAVGNRSRVPLDEIKEAANAANIHSPFIEGLPEKNTQVGLKGAQISGGQKORLA 720
DB 1044 SIENIAVGNRSRVPLDEIKEAANAANIHSPFIEGLPEKNTQVGLKGAQISGGQKORLA 1103
QY 721 IARALLQKPKILLDEATSALDNDSEKVOHALDKARTGTCVVTHTRLSAIQNADLIIV 780
DB 1104 IARALLQKPKILLDEATSALDNDSEKVOHALDKARTGTCVVTHTRLSAIQNADLIIV 1163

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Oy      781  LAMGKIKEGTHOELLRNRDIYFKLVAAQSVQ  812
       |||
Db      1164 LAMGKIKEGTHOELLRNRDIYFKLVAAQSVQ  1195
       |||

RESULT 4
US-09-873-409-5
; Sequence 5, Application US/09873409
; GENERAL INFORMATION:
; APPLICANT: Frank, Markus
; APPLICANT: Sayegh, Mohamed
; TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein
; TITLE OF INVENTION: Homologue on Chromosome 7p15-21 and Uses Thereof
; FILE REFERENCE: 81994/268611
; CURRENT APPLICATION NUMBER: US/09/873,409
; CURRENT FILING DATE: 2001-06-05
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 5
; LENGTH: 1222
; TYPE: PRT
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: Note
; LOCATION: (230)..(230)
; OTHER INFORMATION: Xaa at position 230 represents any L amino acid
US-09-873-409-5

```

Query Match	100.0%	Score 4079	DB 1	Length 1222
Best Local Similarity	100.0%	Pred. No. 0		
Matches 812; Conservative	0	Mismatches	0	Indels 0; Gaps 0;

Qy	1	WVDEBDIALNVHRHDIHGVVSQBPVLEGGTISNNIKYGRDVTDEEMERARAPANYD	60
Dd	411	WVDEBDIALNVHRHDIHGVVSQBPVLEGGTISNNIKYGRDVTDEEMERARAPANYD	470
Qy	61	FIMEFPNKENTLVGEKGAQMSGGQKORIAIARALVNRPKLILDEATSALDESksAVOA	120
Dd	471	FIMEFPNKENTLVGEKGAQMSGGQKORIAIARALVNRPKLILDEATSALDESksAVOA	530
Qy	121	ALEKSKRRTTIVAHRLSTIRSAOLIYTLKODGMAEKAHAEKAGLYSLVMSODI	180
Dd	531	ALEKSKRRTTIVAHRLSTIRSAOLIYTLKODGMAEKAHAEKAGLYSLVMSODI	590
Qy	181	KKADQMSMTSTERKTNSLPLHVSXSIKSPFDKAEESTOSKEISLPEVSLKILTLN	240
Dd	581	KKADQMSMTSTERKTNSLPLHVSXSIKSPFDKAEESTOSKEISLPEVSLKILTLN	650
Qy	241	KPEMPVVLGTLASVLANGVHVPFSIIPAKITTFMGNDKTTLKHDAEIYSMIFVILGVI	300
Dd	651	KPEMPVVLGTLASVLANGVHVPFSIIPAKITTFMGNDKTTLKHDAEIYSMIFVILGVI	710
Qy	301	CFVSYFMQGLPYGRAGEILLTWRLRLRLAKAMLYODIANFDEKXNSTGGULTIADIQOI	360
Dd	711	CFVSYFMQGLPYGRAGEILLTWRLRLRLAKAMLYODIANFDEKXNSTGGULTIADIQOI	770
Qy	361	OGATSRIGVLTQNAKTNMGLSVIISFIYIGMENTPILSIAPLVAATGMIEAAMTGPANK	420
Dd	771	OGATSRIGVLTQNAKTNMGLSVIISFIYIGMENTPILSIAPLVAATGMIEAAMTGPANK	830
Qy	421	DKQELHAKGKIAATEALENIRITVSLTREKAPQOMEEMLOQHRTSKKAQIIGSCVAFS	480
Dd	831	DKQELHAKGKIAATEALENIRITVSLTREKAPQOMEEMLOQHRTSKKAQIIGSCVAFS	890
Qy	481	HAFITPAVAAGRFQAYLIIQAGRMPPEGMFIYFTAIANGAMIGTIVLAPRYSAKASGA	540
Dd	891	HAFITPAVAAGRFQAYLIIQAGRMPPEGMFIYFTAIANGAMIGTIVLAPRYSAKASGA	950
Qy	541	AHLFALLEKPPIDRSQEGKPDTCBGLERREVSFFPCRPDVFILRGSLSTIERGKT	600
Dd	951	AHLFALLEKPPIDRSQEGKPDTCBGLERREVSFFPCRPDVFILRGSLSTIERGKT	1010
Qy	601	VAFVSSGGCKSTSVOLLQRLVDPVOGOVLPDGVAKELNVQMLRSQIAIVQOEVLVNC	660

Db	1011	VAFGSSGCGKSTVQLLQRLYPDVGQVLFDGDAELNVQMLRSQIALVPPSPVFLNC	1070
Qy	661	SIAGENIVGDSRVVPLDEIKEAANAANIHSFIEGLEPEKNTQYGLGAQSLGGQKORLA	720
Db	1071	SIAGENIVGDSRVVPLDEIKEAANAANIHSFIEGLEPEKNTQYGLGAQSLGGQKORLA	1130
Qy	721	IARALLQPKLLLDEATSAIUNDSSEKVOHALDKARTGRTCLVTRHLSAIQNAADLIIV	780
Db	1131	IARALLQPKLLLDEATSAIUNDSSEKVOHALDKARTGRTCLVTRHLSAIQNAADLIIV	1190
Qy	781	LHNGIKKQGTQHELNRNDIYFCLVAASQVQ	812
Db	1191	LHNGIKKQGTQHELNRNDIYFCLVAASQVQ	1222

RESULT 5
US-09-873-409-1

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:sequence 1, Application US/056/3405
:GENERAL INFORMATION:
:APPLICANT: Frank, Markus
:APPLICANT: Sayegh, Mohamed
:TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein
:TITLE OF INVENTION: Homologue on Chromosome 7p15-21 and Uses Thereof
:FILE REFERENCE: 81.994/268611
:CURRENT APPLICATION NUMBER: US/09/873,409
:CURRENT FILING DATE: 2001-06-05
:NUMBER OF SEQ ID NOS: 19
:SOFTWARE: PatentIn version 3.0

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ORGANISM: Homo sapiens
US-09-873-409-1

Query Match	81.5%	Score 3323;	DB 1;	Length 659;
Best Local Similarly	100.0%	Pred. No. 0;		
Best Match 659; Conservative	0;	Mismatches	0;	Gaps 0;

QY	154	MLARKGAHAEIMARGRJYYSLSVMSQDIKKADDEQWESMTYSTERTNSLPLSHSVSIXISDF	213
Db	1	MLAEKGHAELMAKRGJYYSLSVMSQDIKKADDEQWESMTYSTERTNSLPLSHSVSIXISDF	60
QY	214	IDKAEESTQSCSEISLPEVSLSLIKILKNKPMPFPVLGTLASVNGTYHPVPSIIFAKIIT	273
Db	61	IDKAEESTQSCSEISLPEVSLSLIKILKNKPMPFPVLGTLASVNGTYHPVPSIIFAKIIT	120
QY	274	MEGNNDKTTLLKHDAEITYSMIFVILGVTCPFSYFMQGLFYGRAGEILTMRLRHLAFKMLY	333
Db	121	MEGNNDKTTLLKHDAEITYSMIFVILGVTCPFSYFMQGLFYGRAGEILTMRLRHLAFKMLY	180
QY	334	QDIAMPDEKENSJTGSLTTIILAIIDIAIQAGATSGRIGLTONATMGLSVIISPIYGEWT	393
Db	181	QDIAMPDEKENSJTGSLTTIILAIIDIAIQAGATSGRIGLTONATMGLSVIISPIYGEWT	240
QY	394	FLIISIAPVLAVTGMIETAAMTGFANKOKELKHAGKIATEALENIIFTIYSLTREKAPQ	453
Db	241	FLIISIAPVLAVTGMIETAAMTGFANKOKELKHAGKIATEALENIIFTIYSLTREKAPQ	300
QY	454	MYEEMLOTORHNSTSKAQIIGSCYAFESHAFIYFYAAGFRFGAVLIOAGMTPEBGMIVF	513
Db	301	MYEEMLOTORHNSTSKAQIIGSCYAFESHAFIYFYAAGFRFGAVLIOAGMTPEBGMIVF	360
QY	514	TAIYAGMAAGTULVLAPEYSKASGAANH.PALLEKKPNIDRSQEBKKPDTCGNLEFR	573
Db	361	TAIYAGMAAGTULVLAPEYSKASGAANH.PALLEKKPNIDRSQEBKKPDTCGNLEFR	420
QY	574	EVSEFFYPCRPDVPFILRGJLSISIERGKTVAFVGSQCGKSTSVOLLORLYDPVOGOVLFDG	633
Db	421	EVSEFFYPCRPDVPFILRGJLSISIERGKTVAFVGSQCGKSTSVOLLORLYDPVOGOVLFDG	480
QY	634	VDAAELAVQMLRSQIAIVPQEPVLFNCSIAENIAYGNSKRVPLDEIKKANNAANIHSFI	693

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Db      481 VDAAELNVQRLRSQIALVPEPVLFNCSIAENIAYGNSRVPLDEIKKANANINHSFT 540
Qy      694 EGPENKNTQVQKGAQSGSGQKORLAIARALLQPKILLDENTSALDNDESEKVVQHAL 753
Db      541 EGPENKNTQVQKGAQSGSGQKORLAIARALLQPKILLDENTSALDNDESEKVVQHAL 600
Qy      754 DKARTGTCVTVTRLSAIONADLIVLHNGKIKEQSTHQLLRNDRIFYKLVNAAQSVQ 812
Db      601 DKARTGTCVTVTRLSAIONADLIVLHNGKIKEQSTHQLLRNDRIFYKLVNAAQSVQ 659

RESULT 6
US-09-873-409-8
; Sequence 8, Application US/09873409
; GENERAL INFORMATION:
; APPLICANT: Frank, Markus
; APPLICANT: Sayegh, Mohamed
; TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein
; FILE REFERENCE: 81994/268611
; CURRENT APPLICATION NUMBER: US/09/873,409
; CURRENT FILING DATE: 2001-06-05
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: Patentin version 3.0
; SEQ ID NO 8
; LENGTH: 514
; TYPE: PRF
; ORGANISM: Homo sapiens
; US-09-873-409-8

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Query Match      20.3%; Score 828; DB 1; Length 514;
Best Local Similarity 36.7%; Pred. No. 0;
Matches 191; Conservative 103; Mismatches 202; Indels 24; Gaps 8;

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Qy      247 VVGLTASVNGTVHPVPSIIIFAKITMFGNNDKTLKDAEITYS-----MTFVLGVIC 301
Db      1 MVLGLASLVNGACLPMLPLVLGEM---SDNLISGCLVQNTNTYSPFRLLTLYVGIGVAA 56
Qy      302 FVSVMQGLFYGRAGILTLRLHLAFKAMLYODIAMFDEKENSSTGLTTILAIDIAQIQ 361
Db      57 LIFGYOISLMTITTAARQTRIRKQPFHSVLAQDIDGPFSCD--IGELNTRMT-DIDKIS 113
Qy      362 GATGSRIGVLTQNTATNGLSVIISFIYGMEMFLISIAVLAVTGMIEETAMTGFRANKD 421
Db      114 DGIQDKIALFPQNMSTFSIGLAVGVKGMKTLTVLTSTPLIMASAAASRMVYISLTSKE 173
Qy      422 KQELKHAGKATALENIRITVLSITREKAFBQMYEMLQTOH---RNTSKAQIISCY 477
Db      174 LSAVSKAGAAVEVLSSIRTVIAFRAQEKELQRYTQNLKADKQFGIRRTIASKVSLGAVY 233
Qy      478 AFSHAFTYFAVYAGFRGAYLIQAGR--MTPEGMFIYFTAIAYGAMAIGKTLVLAPESYK 535
Db      234 FPMNG-----TYGLAFWYGTSLILNGEPGYITIGTLAVFVSHSYCIGAAVHFEETFAI 289
Qy      536 AKSGAHLFALLEKKNIDRSQEGKKPTCEGNLEFREVSPFYPCRPDVFIILGSLSTI 595
Db      290 ARGAATFIIFQVIDKPSIDNFSTAGYVRESIEGTVEFKNVSPFVPSRPSIKILKGLNLR 349
Qy      596 ERKQTVAFVSSGCGKSTVOLQRLYDPQGVLPFCVDAKELNVQMSQAIVYQEP 655
Db      350 KSGETVALVNLNGSGKSTVQQLQRLYDPDGGFVNDENDIRANVHYHDHIGVSOEP 409
Qy      656 VLFNCSIAENIAYGNSRVPLDEIKKANANINHSFTIEGLPEKYNTQVQKGAQSGGQ 715
Db      410 VLFQTTISNNIKYGRD--VTDEMERARAEANAYDTIMEFPKFNLTIVGEKGAQSGGQ 467
Qy      716 KQRIAIARALLQPKILLDENTSALDNDESEKVVQHALDK 755
Db      468 KQRIAIARALVRNPKIILDEATSAIDSESKSAVQALEK 507

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RESULT 7
US-09-873-409-7

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; Sequence 7, Application US/09873409
; GENERAL INFORMATION:
; APPLICANT: Frank, Markus
; APPLICANT: Sayegh, Mohamed
; TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein
; FILE REFERENCE: 81994/268611
; CURRENT APPLICATION NUMBER: US/09/873,409
; CURRENT FILING DATE: 2001-06-05
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: Patentin version 3.0
; SEQ ID NO 7
; LENGTH: 511
; TYPE: PRF
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: Note
; LOCATION: (230)..(230)
; OTHER INFORMATION: Xaa at position 230 represents any L amino acid
; US-09-873-409-7

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Query Match      19.9%; Score 812.5; DB 1; Length 511;
Best Local Similarity 35.5%; Pred. No. 0;
Matches 194; Conservative 106; Mismatches 196; Indels 51; Gaps 11;

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Qy      247 VVGLTASVNGTVHPVPSIIIFAKITMFGNNDKTLKDAEITYS-----MTFVLGVIC 301
Db      1 MVLGLASLVNGACLPMLPLVLGEM---SDNLISGCLVQNTNTYSPFRLLTLYVGIGVAA 56
Qy      302 FVSVMQGLFYGRAGILTLRLHLAFKAMLYODIAMFDEKENSSTGLTTILAIDIAQIQ 361
Db      57 LIFGYOISLMTITTAARQTRIRKQPFHSVLAQDIDGPFSCD--IGELNTRMT-DIDKIS 113
Qy      362 GATGSRIGVLTQNTATNGLSVIISFIYGMEMFLISIAVLAVTGMIEETAMTGFRANKD 421
Db      114 DGIQDKIALFPQNMSTFSIGLAVGVKGMKTLTVLTSTPLIMASAAASRMVYISLTSKE 173
Qy      422 KQELKHAGKATALENIRITVLSITREKAFBQMYEMLQTOH---RNTSKAQIISCY 477
Db      174 LSAVSKAGAAVEVLSSIRTVIAFRAQEKELQRYTQNLKADKQFGIRRTIASKVSLGAVY 233
Qy      461 -TQNRNTSKAQI-----IGSCYAPSHAFTYFAVYAGFRGAYLIQAGR--MTPEGS 508
Db      234 YTONLMDADFGIKRTIASKVSLGAVYFFMNG--TYGLAFWYGTSLILNGEPGYITIGT 289
Qy      509 MFIYFTAIAYGAMAIGKTLVLAPESYKASGAHLFALLEKKNIDRSQEGKKPTCEG 568
Db      290 VLAVFVSVHSSYICIGAAVPHFEETFAIARGAAHIFQVIDKPSIDNFSTAGYKPSIES 349
Qy      569 NLEFREVSPFYPCRPDVFIILGSLSTIERKQTVAFVSSGCGKSTVOLQRLYDPVQ 628
Db      350 TVEFKNVSPFVPSRPSIKILKGLNLRKSGETVALVGLNGSGKSTVQQLQRLYDPDDG 409
Qy      629 VLFQVDAKELNVQRLRSQIALVPEPVLFNCSIAENIAYGNSRVPLDEIKKANAN 688
Db      410 INVDEMDIALNRHNRHDIGVVSQEPVFGTTISNNIKYGRD--VTDEMERARAEAN 467
Qy      689 IHSFIEGLPEKYNTQVQKGAQSGQKORLAIARALLQPKILLDENTSALDNSEK 748
Db      468 AYDFIMEFPKFNLTIVGEKGAQSGQKORLAIARALVRNPKIILDENTSALDSK 527
Qy      749 VQHALDK 755
Db      528 VQAALEK 534

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RESULT 8
US-09-873-409-3
; Sequence 3, Application US/09873409
; GENERAL INFORMATION:
; APPLICANT: Frank, Markus
; APPLICANT: Sayegh, Mohamed
; TITLE OF INVENTION: A Gene Encoding a Multidrug Resistance Human P-Glycoprotein

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; TITLE OF INVENTION: Homologue on Chromosome 7p15-21 and Uses Thereof
 ; FILE REFERENCE: 81994/268611
 ; CURRENT APPLICATION NUMBER: US/09/873,409
 ; CURRENT FILING DATE: 2001-06-05
 ; NUMBER OF SEQ ID NOS: 19
 ; SOFTWARE: PatentIn version 3.0
 ; SEQ ID NO 3
 ; LENGTH: 131
 ; TYPE: PRT
 ; ORGANISM: Homo sapiens
 US-09-873-409-3

Query Match 15.2%; Score 619; DB 1; Length 131;
 Best Local Similarity 100.0%; Pred. No. 0;
 Matches 124; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy	1	MVDENDIALNVRRHRRDHIGVVSQEPVLFGTTSNNIKYGRDDVTDEMERARARANAYD	60
Db	1	MVDENDIALNVRRHRRDHIGVVSQEPVLFGTTSNNIKYGRDDVTDEMERARARANAYD	60
Qy	61	FIMEPPNKFTLVGKGAQMSGGQKORIAIAPALVVRNPKTILIDEATSALDSESKAVOA	120
Db	61	FIMEPPNKFTLVGKGAQMSGGQKORIAIAPALVVRNPKTILIDEATSALDSESKAVOA	120
Qy	121	ALEK 124	
Db	121	ALEK 124	

Search completed: December 18, 2003, 12:57:23
 Job time : 2 secs

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